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AN EMPIRICAL STUDY OF ATTITUDE SCALING

by

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A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "An Empirical Study of Attitude Scaling" submitted by Jean Veevers in partial fulfillment of the requirements for the degree of Master of Arts.

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ABSTRACT

The concept of attitude is important for sociology. The most popular approach to the measurement of attitude has been that of attitude scaling. A research study was designed to examine three basic questions about scaling. Are we justified in placing confidence in research involving attitude scaling? If so, which scaling technique is the most satisfactory? How does scaling compare with other approaches to the problem of attitude measurement?

The subject selected for study was attitudes toward drinking alcoholic beverages. Two questionnaires were designed and administered: a Judgement Questionnaire, for the formulation of attitude scales; and a Testing Questionnaire, for the assessment of respondent's attitudes towards drinking by ten different measures. Data from the questionnaires were used to test six specific hypotheses concerned with basic scaling assumptions, with the comparison of various scaling techniques, and with the comparison of scaling with other methods of attitude measurement.

The conclusions drawn from the study were made with cognizance of several limitations in the data. These included the lack of independent development of scales, the uncertainties involving the use and interpretation of gamma, the assumption of validity of the behavior index, and the inability to assess the reliability of some measures.

In spite of these limitations, the data supported several conclusions. Firstly, most scaling techniques were found to have fairly high validity and reliability. Secondly, the method of successive intervals appeared to be the most satisfactory scaling technique. Thirdly, the failure of the successive intervals scales to achieve unidimensionality cast some doubt on the necessity of unidimensionality in attitude scaling. Fourthly, results indicated that the single item polls and the graphic self-rating techniques were nearly as satisfactory for attitude measurement as elaborate and sophisticated scaling techniques.

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PART ONE

THEORETICAL ORIENTATION

AND

REVIEW OF THE LITERATURE

CHAPTER I

INTRODUCTION

I. Statement of the Problem

The concept of attitude is important in sociology. Because attitudes are significant sociological variables, their measurement has been of concern to many researchers. The most common approach to the measurement of attitudes has been that of attitude scaling. Hundreds of studies have been done assessing attitude by the use of scales and, generally, they are considered to be acceptable sociological research, yielding valid and worthwhile results. However, the results of research based on attitude scales can be only as valid and reliable as the scales themselves. Validity and reliability are functions of the acceptability of the underlying assumptions and of the methodology used in scale development. In order for sociologists to evaluate research already done, and to plan future research as efficiently as possible, it is important to try to answer certain questions. Are we justified in placing confidence in studies based on attitude scaling? If so, is attitude scaling the most desirable approach to the problem of attitude measurement? If scaling is valuable, which techniques of scale construction are 'best', under what conditions, by what criteria?

This thesis has attempted to deal with questions such as these. The purpose of the thesis was two fold. Firstly, it was

desired to focus attention on important general issues in the field of attitude scaling which, although unsatisfactorily resolved, are frequently ignored in both attitude scaling research and in the application of attitude scaling techniques. Secondly, it was desired to present data relevant to the resolution of some of these issues and problems in the field of attitude scaling. Specifically, three considerations were involved: the examination of certain basic assumptions of attitude scaling techniques; the comparison of various techniques of attitude scale construction; and the comparison of attitude scaling techniques with other approaches to the problem of attitude measurement. Relevant hypotheses were tested while developing scales concerning the universe of attitudes toward the drinking of alcoholic beverages.

Part One deals with the first purpose, and explains the theoretical orientation. Material is organized around three questions. First, what is being studied? Chapter One is concerned with defining attitude and distinguishing it from related concepts. Secondly, why is it studied? Chapter Two explicates the importance of the concept for sociology. Thirdly, how has the field of attitude measurement been approached? The review of the literature in Chapter Three summarizes that we know about attitude scaling, and suggests several problems still unsolved.

Part Two deals with the attempted solution of these problems. An empirical study was designed to gather relevant data. Two questionnaires were developed and administered: a Judging

questionnaire for the development of attitude scales, and a Testing Questionnaire for the administration of these scales, and of other indices of attitude towards drinking alcoholic beverages. In Chapter Four, hypotheses are presented regarding some of the unsolved problems of the attitude scaling. In Chapter Five, the development and application of instruments for data collection is described, and, in Chapter Six, an analysis of the data is presented. Chapter Seven is concerned with conclusions and implications.

II. Definition of the Term Attitude

The concept of attitude has been used extensively in sociological literature, especially during the last forty years. Unfortunately, almost every author uses it in a slightly different manner, with different explicit and implicit connotations. The lack of consensus on the exact meaning of the concept has been a central criticism of the whole field of attitude research. In spite of the diversity of usage and synonyms, however, there is a common theme of meaning in all discussions of attitude, and it is necessary to isolate and understand this theme before discussing other aspects of the concept.

Literally hundreds of definitions of attitude have been written. Their meaning is clarified by classifying them into general categories. There are two general types of definitions: attitude as behavior; and attitude as a tendency toward behavior.

A. Attitude as Behavior

The extreme behaviorist school defines attitude as the behavior of the individual, rather than a tendency or predisposition of behavior.

Implicitly, these definitions deny the existence of subjective processes. From this frame of reference, attitude is practically synonymous with habit.¹ This approach to the concept of attitude has been largely abandoned, and will not be pursued here.

B. Attitude as a Tendency Toward Behavior

Accepted definitions of attitude are couched in terms of tendencies or predispositions to act. Dobra has delineated three types of attitudes within this category.²

1. The "Organic Set" Type

Attitude may be seen as largely a physical preparation to action. The emphasis is on a physiological tendency to react, either as a "motor-set" or as a "neural-set".³ This type of definition has not been completely abandoned, but at least within the sociological framework, it is not a common or popular interpretation of attitude at the present time.

2. The General Theory Type

Certain authors have defined attitude as a very general preparation to action. Their interpretations are broad, vague and often so all inclusive as to be of little practical or analytical value.⁴ The general idea may be valuable, but it often does not differentiate attitude from related mental states.

3. The "Mental-Preparation" Type

Mental preparation type theories are different from the "Organic Set" type in that they are largely couched in mental terms, as compared with neural or motor terms. They are distinguished from the General

Theory type in that they are quite specific. Dobra has noted two variations in this type: a "behavior-patterns" type and a "tendency to act" type.⁵ The "behavior-patterns" type shows the influence of the behaviorist school. The "patterns" are traces of previous and future conduct of the individual.⁶ The two most elementary patterns are tendencies to approach or to withdraw.⁷

In modern sociology, the "tendency to act" definition of attitude is the one most frequently employed. This popular definition has gained wide acceptance, and has been used extensively as a basis of research. It is often given in terms of evaluative feeling toward some object, and is the basic orientation of almost all attitude research. A fairly typical current definition of this type is that given by Katz:⁸

Attitude is the predisposition of the individual to evaluate some symbol or aspect of his world in a favourable or unfavourable manner...including both affective and cognitive elements which describe the object of the attitude.⁹

III. A Composite Definition of Attitude

A content analysis of various accepted definitions of the term attitude reveals six basic components. An attitude may be defined as: a learned¹⁰ predisposition or tendency to respond¹¹ in a fairly consistent,¹² affective,¹³ as well as cognitive¹⁴ way, toward a specified social object.¹⁵

This definition of attitude will be the basis of subsequent discussions in this thesis.

IV. Dimensions of Attitude

The dimensions of attitude, like the definition, have been outlined in various ways. Discussions of attitudes generally interpret attitude as varying according to the following dimensions:

- A. direction (whether negative or positive)
- B. degree (i.e. on the continuum from negative to positive)
- C. strength, intensity or magnitude (the degree of affective response)
- D. salience or centrality (their importance to the subject)
- E. coherence or consistency (ordering and integration of attitudes)
- F. stability
- G. specificity or generality (i.e. in terms of the range of objects to which they refer)
- H. being common (to many individuals) or idiosyncratic (unique to a few individuals)
- I. being latent or kinetic (expressed)
- J. being conscious or unconscious and
- K. belonging to an individual or to a group.

V. Attitude Differentiated from Related Concepts

Several concepts commonly found in sociology and psychology are closely related to the concept of attitude and are often confused with it and are used interchangeably. To discuss attitude, it is important to know not only what it is, but also what it is not, and to distinguish it from other terms.

A. Value and Attitude

Like attitude, the idea of value is an important abstract concept which is difficult to satisfactorily define. Values have been broadly defined as anything desired or chosen by someone sometime. In their broadest sense, they are: "attitude-related attributes that are projected upon people, objects, and situations."¹⁶ Generally, values

generate attitudes. They are strictly psychological entities, and are not measureably by any means yet defined.¹⁷ Values are more general than attitudes.

B. Opinion and Attitude

The terms opinion and attitude are generally used interchangeably. Some authors explicitly state their intention to equate the two words. For example: the authors of Opinion and Personality write: "We shall not be fussy about the word used...Attitude, opinion, sentiment, - all of these terms refer to the kind of predisposition we have in mind." 18, 19 Other authors make a technical distinction between the two terms by saying that opinions are verbally expressed attitudes. Most of conventional attitude scaling proceeds from this definition and the implicit assumption that one can tell an individual's "true" attitude on the basis of his verbal opinions. Attitude is defined as a latent variable, and opinion as one expression of it, but implicitly in the writing opinion measurement becomes equated with attitude measurement.

Broom and Selznick make a useful distinction among these much confused terms. Values generate attitudes, and attitudes are in turn reflected in opinions, which are specific judgements on particular issues. "The sequence from value to attitude to opinion moves from the general to the specific, from a broad mental set or disposition to a narrower one and finally to a specific and concrete expression of it."²⁰ Attitudes are thus less enduring and stable than values, but more enduring and less situational than opinions.

Opinions are a kind of overt behavior. It is generally recognized that there is no one-to-one relationship between overt behavior and covert attitudes. The definition of attitudes as predispositions to action implies that they are important determinants of behavior, but they are not the only determinants. Opinions may often be valid indices of attitude but before they can be unconditionally accepted as such, they should be collaborated, at least to some extent, by other behavior indices.

C. Trait and Attitude

Traits refer to unique and personal ways of responding to the environment. They differ from attitudes in that they need not refer to a specific object and they are not evaluative.

D. Sentiment and Attitude

Sentiments or passions have been defined as: "deep-seated cognitively and emotionally crucial concerns of the individual...the centers of reference for the most complex and extended actions...the themes and organizers of effort."²¹ There are two kinds of sentiments: those which are highly salient to the individual but sociologically peripheral; and those peripheral from the standpoint of the individual, but shared with others in the society. The second kind of sentiments are attitudes. Attitudes differ from sentiments in that they are generally less enduring, less salient to the individual, and less specific in their referent.²²

E. Motive and Attitude

All attitudes are kinds of motives, but not all motives are

attitudes. The essential difference is that all attitudes are learned in the social-cultural situation, whereas motives in general may be learned or innate. An attitude has consequences in a person's behavior, and is therefore goal directed. Social attitudes may therefore be seen as a type of socio-genic motives. Attitudes are initiators of behavior and continual potentials toward behavior.

VI. Summary

The problem proposed was twofold: to delineate problems in the field of attitude scaling, and then to suggest some tentative solutions to them based upon empirical research. Before the problem could be approached, the concept of attitude had to be defined and distinguished from related concepts. Once a definite idea of the subject matter was formed, attention was focused upon its theoretical significance and upon the large body of literature pertaining to it.

FOOTNOTES CHAPTER ONE

¹Examples of definitions of attitude as behavior are: "habitual ways of reacting to life." Bogardus, E.S. Fundamentals of Social Psychology. New York: Century, 1924, p. 45. "a combination of emotional, instinctive, and habit activities." Watson, J.B. Psychology From the Standpoint of a Behaviorist. New York: Lippincott, 1924, p. 238. "the relatively stable overt behavior of a person which affects his status." Bain, R. "An Attitude On Attitude Research." American Journal of Sociology, 57 (1928), p. 950.

²Dobra, D.D. "The Nature of Attitude". Journal of Social Psychology, 3 (1932) pp. 444-462.

³An example of a definition of attitude as a "motor-set" is: "a disposition to act which is built up by the integration of numerous specific responses of a similar type, but which exists as a general neural "set" and when activated by a specific stimulus results in behavior that is more obviously a function of the disposition than of the stimulus." Allport, G. "The Composition of Political Attitudes." American Journal of Sociology, 35 (1929), p. 221.

⁴Two examples of general theory type of definitions of attitudes are: "a process of individual consciousness which determines the real or possible activity of the individual in the social world. Thus, hunger, that compels the consumption of the foodstuff, the workman's decision to use the tool...are attitudes...It is a tendency to action." Thomas, W. I. and Znaniecki, F. The Polish Peasant in Europe and America. New York: Alfred A. Knopf Inc. 1927, p. 1115. "the subjective reactions to a value." Ibid., p. 22. "the general set of the organism as a whole toward an object or situation which calls for adjustment...It includes all the neural and other physiological sets and postures, and their psychological correlates, toward a situation." Lundberg, G. Social Research. New York: Longmans, Green, and Co., 1929, p. 379. "a reaction of the human being." Folsom, J. Social Psychology. New York: Harper and Bros., p. 701.

⁵Dobra, D.D. The Nature of Attitude. Journal of Social Psychology, 3 (1932), pp. 444-462.

⁶Ibid., p. 450.

⁷Examples of "behavior-pattern" types of definitions of attitudes are: "a behavior pattern or unit of behavior." Park, R. and Burgess, E. Introduction to the Science of Sociology. Chicago: University of Chicago Press, 1921, p. 1040. "for the most part acquired behavior patterns having been built up out of our experiences in characteristic situations." Bernard, L. An Introduction to Sociology. New York:

Holt, 1926, p. 652. "a mental disposition of the human individual to act for or against a definite object." Dobra, D. "The Nature of Attitudes" Journal of Social Psychology, 3 (1932) p. 445. "the type of sentiment which an individual manifests upon the recurrence of a given situation. It is a behavior pattern, with reference especially to the "feeling" side of response." Wolfe, A. Conservatism, Radicalism, and Scientific Method: An Essay on Social Attitudes. New York: Macmillan, 1933, p. 674. "an acquired, or learned, and established tendency to react toward or against something or somebody...evidenced by either approaching or withdrawing types of behavior." Fairchild, H. Dictionary of Sociology and Related Sciences. Paterson, New Jersey: Littlefield Adams and Co., 1962, p. 18.

⁸Other examples of the "tendency to act" type of definition are: "an adjustment of an individual toward a selected aspect of his environment or of his own conduct...(i.e., the individual is ready or set to respond in a certain way...this is the meaning of attitude prevailing from the earliest state of experimental psychology) ...Attitudes may also be regarded as predispositions or orientations toward issues, institutions or people." Bird, C. Social Psychology. New York: Appleton-Century-Crofts, 1940, p. 44. "the degree of positive or negative affect (feeling) associated with some psychological object (i.e. symbol, phrase, slogan, person, institution, ideal or idea)." Thurstone, L.L. "Comment." American Journal of Sociology, 52 (1946). "states of readiness to respond (neither stimulus nor response as such)" Newcomb, T. Social Psychology. New York: Dryden, 1950, p. 194. "an enduring syndrome of response consistency with regard to (a set of) social objects." Campbell, C.T. "The Indirect Assessment of Social Attitudes." Psychological Bulletin, 47 (1950), p. 3. "a personal disposition common to individuals, but possessed to different degrees, which impels them to react to objects, situations, or propositions in ways that can be called favourable or unfavourable." Guilford, J.P. Psychometric Methods. New York: McGraw Hill, 1954, p. 456. "a predisposition to experience, to be motivated by and to act toward a class of objects in a predictable manner." Smith, M., Bruner, J and White, R. Opinions and Personality. New York: John Wiley and Sons, 1956, p. 33. a fairly consistent learned tendency to behave in a certain way (generally positively or negatively) towards persons, objects, or situations." Sargent, S.S. and Williamson, R. C. Social Psychology. New York: The Ronald Press, 1958. p. 255. "predisposition to perform, perceive, think and feel in relation set...direction is the essence of attitudes... they are more or less enduring states..." Curtis, J.H. Social Psychology. New York: McGraw-Hill, 1960, p. 184.

⁹Katz, D. "The Functional Approach to the Study of Attitudes." Public Opinion Quarterly, 24 (1960), p. 164.

¹⁰According to "overwhelming evidence," it is acquired in interaction. Curtis, J. H. Social Psychology. New York: McGraw-Hill, 1960, p. 182.

¹¹Attitude is not the behavior or act itself.

¹²Attitudes are relatively persistent and enduring but they are not inflexible. While they form general patterns, they do show some change and variations.

¹³An attitude is never neutral, but rather an evaluative response which may be expressed in terms such as like and dislike, favourable and unfavourable.

¹⁴Attitude also involves the dimension of belief-disbelief.

¹⁵Attitude is always in terms of some specific thing.

¹⁶Sargent, S. S. and Williamson, R.C. Social Psychology. New York: The Ronal Press, 1958, p. 246.

¹⁷Fairchild, H.P. Dictionary of Sociology and Related Sciences. Paterson, New Jersey: Littlefield, Adams and Co., 1962, P. 332.

¹⁸Smith, M., Bruner, J. and White, R. Opinions and Personality. New York: John Wiley and Sons, 1956, p. 33.

¹⁹The comparability of the terms opinion and attitude is supported by subsequent discussions by Smith et al. Their discussion of the various dimensions of opinion (differentiation, saliency, time perspective, informational support, and object value) and of the function of opinions corresponds closely to parallel discussions regarding attitudes. Ibid., pp. 29-47.

²⁰Broom and Selznick. Sociology. 1963, p. 276.

²¹Asch, S. Social Psychology. New York: Appleton-Century-Crofts, 1952, p. 562.

²²Allport, G. "The Historical Background of Modern Social Psychology." Lindzey, G. (ed.) Handbook of Social Psychology. Reading, Mass.: Addison-Wesley Publishing Co., vol. 1, 1954, p. 45.

CHAPTER II

THE IMPORTANCE OF THE CONCEPT OF ATTITUDE FOR SOCIOLOGY

I. The Centrality of the Concept of Attitude

In 1935, Gordon Allport wrote the much-quoted statement: "The concept of attitude is probably the most distinctive and indispensable concept in contemporary American social psychology. No other term appears more frequently in experimental and theoretical literature."¹ Almost every subsequent discussion of social attitudes has echoed these sentiments. Remmers, in 1954, quotes Allport and adds that: "This is even more true today."² Bird refers to the important "theoretical implications,"³ of knowledge about attitudes. Reviewers frequently comment on the voluminous literature in the field of attitude study, and on the tremendous amount of research and experimentation that has been undertaken. There are three main aspects of the importance of the concept of attitude for sociology. Firstly, it is of central importance among sociology and other disciplines, and within each of the three main frames of reference: the verstehen school, the positivist school, and the structural functionalist school. Secondly, attitudes are important for both of the major orientations in sociology; the theoretical and the methodological. Thirdly, the concept of attitude is of central importance in many substantive areas of sociology. Each of these aspects will be considered in some detail.

The question of why the concept of attitude is a central and important one will be approached firstly from the interdisciplinary point of view and secondly from a wholly sociological point of view.

II. Interdisciplinary Approaches

Attitude is essentially a "neutral" concept. It does not belong to any one discipline, but transcends several approaches to the study of human behavior. One reason is that because it necessitates few assumptions, it fits equally well into a variety of theoretical frameworks. Thus, it can escape or transcend some of the controversies which tend to split the social sciences into antagonistic schools of thought. For example: a few decades ago, attitude was viewed as both a habit and an instinct. Attitudes were considered to be learned, but the underlying bases and motivations were considered innate. The attitudinal approach thus avoided the old problem of the relative influence of heredity and environment.⁴ The study of attitudes also tended to reconcile the behaviorists with other sociological schools. The concept of attitude is concerned with the subjective phenomena of mind but, because of the responses to an attitude item is an observable, concrete and measurable behavior, it is also acceptable and meaningful to the behaviorist.

Attitude is a very broad concept in that the range of possible attitudes is virtually unlimited as regards all of man's behavior and response to all of his social objects.

Although the concept of attitude refers to a complex phenomenon (in one sense, the total effect of the individual's past experience) it is itself a comparatively simple and straightforward idea. As such, it helps to condense and to make concrete and manageable abstract and elusive influences and concepts.

In addition, the application of attitudinal analysis is not limited to any given size of unit. The concept is elastic enough to study isolated individuals (as the studies on the authoritarian personality) or small groups or broad patterns of culture (as the studies of national character). Attitude can be conceived of as an important part of a wide variety of processes, from early socialization to complex adult decision making (i.e. voting behavior.) Thus, it is versatile not only in terms of the nature of the object involved, but also in the size of the unit of analysis and the stage of the process to be described. Because the concept of attitude is broad yet simple, "neutral" yet versatile, it is a natural focus for electric theorists. It is, however, much more than that. Attitudes provide a common ground for discussion and the exchange of research findings among such diverse fields as sociology, psychology, psychoanalysis, cultural anthropology and history.

III. Intradisciplinary Approaches

The mere fact that the study of attitudes is common to sociology and other disciplines is not enough to account for its importance. Its real significance stems from its utility in (partially) reconciling

divergent elements within the discipline of sociology. To explain this requires a short discussion of these divergent elements.

A. Overview of Approaches to Sociology

One way of approaching sociology is by classifying various aspects of it according to three basic questions: What is studied? How? From what frame of reference?

Sociology has been sub-divided and analyzed by several different taxonomies. Different systematizations of theories have, of course, interpreted and labelled somewhat differently the various major and minor schools of thought. However, there is a fairly high consensus of opinion that contemporary sociology may be approached from three frames of reference. On the one hand is the continuum between the verstehen⁵ school, which follows in the German tradition, exemplified by Max Weber, and the positivist school (and neo-positivist) which follows in the tradition of men such as Comte and Durkheim. Structural functionalism presents a third alternative orientation. The trichotomy overlaps, but in general contemporary theory can be classified in one of the three schools. These general frameworks provide alternative answers to the question of frame of reference. The issues that differentiate them are familiar and need not be explained here again.

Sociology may also be characterized on the basis of how it is studied. There is a continuum between the theoretical and the methodological orientation. The difference here is not so much a difference in kind as a difference in emphasis. Although each approach recognizes the existence of the other, and pays at least

lip-service recognition as to its importance, it continues to stress its own aspect as the most significant for sociology.

Finally, sociology is divided on the basis of what it studies. There are various special areas within the discipline set off by differences in their subject matter.

How does this analysis relate to the concept of attitude? The concept of attitude is central to each aspect of Sociology, as outlined above. It provides a common denominator⁶ among various areas of the discipline, and as such, functions as an integrating force to strengthen the cohesion, continuity and logical integration of divergent aspects of the discipline. Exactly how this happens will be examined in detail with reference to each school or orientation.

B. Verstehen School

Weber is certainly the central classical figure of the school. His whole concept of verstehen is oriented in terms of the inner dimension of experience, of the meaning of the action to the actor. Although he does not use the term, what he is talking about is attitudes. The discussions of Protestant man, for example, are in terms of his orientation to the world, his predisposition to respond in a given way; in short, his attitude. As will be shown later, the idea of ideal types is also closely linked with attitudes.

Of the many scholars who follow the verstehen tradition of Weber, I have selected three who stand out because of their special focus on attitude.⁷ Mead made attitudes the central focus of this

work. A typical summary statement reads:

what goes to make up the organized self is the organization of attitudes which are common to the group...what we mean by self-consciousness is an awakening in ourselves of the group of attitudes which we are arousing in others.⁸

His important concept of "generalized other" can be defined as: "the patterned whole of self-attitudes within a personality."⁹ "The attitude of the generalized other is the attitude of the whole community."¹⁰ Mead uses the concept of attitude to explain the development of the self and the personality in socialization.

"The credit for instituting the concept (of attitude) as a prominent and central feature of sociological writing must be assigned to Thomas and Znaniecki, who gave it systematic priority in their study of Polish peasants."¹¹ Presumably, their work is more or less familiar to the reader. The central concept of the "definition of the situation" reflects the influence of Weber and places the authors unquestionably within the verstehen school. Coser and Rosenberg select this concept as one of fifteen major concepts about which sociological theory is organized.¹²

A quick orientation toward Thomas and Znaniecki is given in the definitions they use. Situation is defined as

the set of values and attitudes with which the individual or group has to deal in a process of activity and with regard to which this activity is planned and its results appreciated.¹³

The "definition of the situation" is defined as:

the more or less clear conception of the conditions and consciousness of attitudes.¹⁴

It is not possible to understand a person's behavior in any situation without knowing how he defines the situation, and what values and meanings it has for him. The relation of attitudes to objective phenomena is reciprocally casual and sequential. "The cause of an attitude is always a value and a pre-existing attitude."¹⁵

In summary: the verstehen school is concerned with such things as meanings, the inner dimension of experience, values, and "definition of the situation" and as such, it is vitally concerned with all aspects and dimensions of social attitudes. Attitudes, like behavior, are seen as essentially rational.¹⁶ Specifically, it is concerned with understanding the source of development of these attitudes.

C. Positivist School

Neo-positivism is epitomized by George Lundberg. In the index of his introductory text¹⁷ Lundberg does not make any reference to such important sociological concepts as mind, consciousness, definition of the situation, sentiment, emotion and social action, nor to such important sociologists as Thomas, Znaniecki, or Mannheim. It is significant that he does make reference to attitudes (mainly in terms of their application to special areas) and to attitude measurement.

Neo-positivism still accepts the Comptean doctrine that: "the subjective or inner aspects of societal phenomena can be studied only in so far as they can be studied by behavioristic methods."¹⁸ It is

characterized by an emphasis on empiricism, quantification, and mathematical techniques. In spite of these orientations, an elusive and subjective concept such as attitude survives and is accepted when other aspects of subjective processes are rejected. The reasons for this are that: it is easy (comparatively) to operationalize; it can be studied in an objective, and detached with a minimum of specific reference back to underlying theory; it can be readily translated into behavior; (responding to an opinion statement is a kind of observable behavior) and; that behavior can be measured and subjected to empirical operations. As might be expected, Lundberg endorses and defends quantitative approaches to attitude scaling.¹⁹

It is recognized that operationalization often obscures, or at least fails to clarify, the meaning of a concept. In addition, we know that behavior is often a far from perfect indicator of mental state. Generally, these two facts make a concept unacceptable to either the verstehen or to the positivist school. (for example: the idea of values, and the techniques of factor analysis do not find universal acceptance). On the other hand, until we can actually get inside people's heads, we shall have to accept some manifest actions as representative of inner states. This is, in fact, what even the verstehen theorist does. He observes and assesses behavior (i.e. the actions of Protestant man), postulates an attitude, explains and predicts from it. The empiricist observes

behavior (i.e. the response to opinion statements), measures it, and postulates an attitude. In both cases, the concept is operationalized. (For the theorist, it may be entirely a subjective process, or it may be guided by methodological constructs such as the ideal type). In both cases, the element of mind or consciousness is taken into account. (For the theorist, it is direct. For the empiricist, it is indirect, in terms of the mind of the subject. The individual or group being tested for attitudes subjectively evaluate the items as they respond to them.) Thus, Lundberg can largely ignore the problems of definition and situation, and still measure them indirectly through the responses of his subjects. The positivist may not really "understand" attitudes or their sources of development, but he can effectively use them.

In summary: the positivist school is concerned with things such as observable behavior. It is still able to incorporate the concept of attitude because attitude can be inferred from behavior and because the subjective meaning of it can be incorporated indirectly.

D. Structural Functionalist School

The concern of structural functionalism with the interdependence of parts of a system yields an analysis of society in such familiar terms as institutions, status and role, actor and situation. One aspect of the place of the concept of attitude in structural functional theory was explained by Asch as follows:

The first condition of any group whatsoever is an alignment of forces in a joint direction...Attitudes are the most concentrated expression of this relation of mutual dependence...they are social principally in that they arise in view of and in response to perceived conditions of mutual dependence...One observes most clearly the social functions of attitudes when the individual's outlook comes into conflict with that of his group...Social attitudes are of the nature of commitments, upon which depends the individual's solidarity with the human element in his surroundings.²⁰ (Underlining added)

A grossly over-simplified interpretation of structural functionalism would be to see society as organized in terms of inter-related institutions. These institutions are enduring patterns of status and role positions. Status is defined by the attitudes of the group. A large portion of the expected patterns of behavior that constitute role involve entertaining certain attitudes. Role playing thus involves accepting and/or learning attitudes consistent with the role.

Katz incorporates attitudes directly into the structural-functional point of view. He attempts to resolve the opposing rationality-irrationality views of the other two schools in terms of theories of psychological consonance (as opposed to dissonance) and the ordering of theories of attitude in terms of functions and needs. Attitudes play a role in personality and are constant or changing according to the functions they perform. These are: the adjustment, instrumental or utilitarian function; the ego-defensive function; the value-expressive function and; the knowledge function.²¹

Smith et al outline three functions of holding an opinion which, in essence, complement Katz's proposed functions. These are: the object appraisal function,²² the social adjustment functions,²³ and the externalization function.²⁴

The functional approach to the study of attitudes is advantageous in that: it enables us to deal with factors which are not strictly psychological variables (i.e. the effect of watching a program on attitudes); it helps to avoid the error of oversimplification; ("Not only are there a number of motivational forces to take into account in considering attitudes and behavior, but the same attitude can have a different motivational basis in different people.")²⁵ and; it considers the specific conditions under which given types of attitudes will change.

In summary: the concept of attitude is important to the structural functional frame of reference in terms of the attitudinal components of conceptual elements (as status and role) and of the functions of attitudes themselves.

E. Theoretical and Methodological Orientations

Sociological theory and sociological methods are too often interpreted as diametrically opposed and conflicting orientations to sociology. A more accurate conception is to view them as complementary approaches toward a common problem. They differ mostly in emphasis, in the focus of their attention. Neither

work had tremendous theoretical implications. On the other, they constantly sought empirical evidence to measure attitudes. (Their methods focused not on scales but on personal case histories, files, letters, newspapers, etc.) The publication of the Polish Peasant marked the beginning of the movement of empirical sociology in America.²⁶ In this case, attitudinal theory was instrumental to the development of a whole school of methodology.

3. Sociological methodologists have probably devoted more concerted time and effort to the problem of measuring social attitudes than any other theoretical construct. Since the publication of Thurstone's initial work on the measurement of attitudes²⁷ attitude scaling has become a significant and important aspect of social methodology. An impressive body of knowledge and theory regarding scale construction has been accumulated, and applied in the formulation of countless attitude scales. These have been incorporated into large research designs and are an important part of contemporary research. In addition to scaling, various other techniques for the measurement of social attitudes have been formulated and applied. The concept of attitude is thus one important theoretical concept which social methodology has thoroughly, systematically and carefully tried to operationalize and quantify. Although existing techniques of attitude measurement are far from perfect, they do represent giant strides in the effort to validly interpret abstract concepts in a concrete form.

4. The measurement of social attitudes may help to verify existing theory. All, or most, of the empirical studies involving the measurement of social attitudes have some theoretical significance, and their results help to establish or discredit the hypotheses suggested by that theory. For example: the theoretical explanations as to why Jewish people consistently have very low rates of alcoholism as compared to other groups is that their attitudes toward drunkenness are strongly negative, as compared to the permissive or positive attitudes of other groups. Measurement of the social attitudes of various ethnic groups would test hypotheses suggested by the theory.

5. The measurement of social attitudes may suggest new theory. The discovery of discrepancies in the attitudinal patterns of various groups provides something that needs explaining and so sets the stage for theoretical formulations. For example: the discovery of drastically different attitudes toward success in the middle and the lower classes may lead to the formulation of a theory to account for it.

In summary: the concept of attitude is important to sociology because it provides a common denominator for the theoretical and methodological approaches, and contributes to their integration within the discipline.

F. Substantive Areas

The most obvious special area that is concerned with attitude is, of course, social psychology.²⁸ Thomas and Znaniecki go so far as to define social psychology as: "the scientific study of attitudes."²⁹

Attitudes, as we have shown, are generally important in all the social sciences, but they constitute, directly or indirectly, almost the entire area of social psychology.

The entire area of minority and ethnic relations is most concerned with intergroup attitudes, the acceptance of ready-made attitudes (i.e. in terms of stereotyping and the social transmission of prejudice), the influence of attitudes on behavior, and the possibilities of attitude change.

The field of mass communications is primarily concerned with the techniques and the effectiveness of attempts at attitude change. Generally, the important purpose of mass media is to persuade and influence the recipient of its message in some way. The goal is the modification of predispositions to response, whether it is advertising, religious appeals or political propaganda. All areas of sociology that are concerned with communication, (as are, for example, large parts of political and educational sociology) must be concerned with existing attitudes and their influence, or lack of it, in molding them.

Attitudes are formed within the limits of a culture and are related in various ways to the cultural framework. One aspect of sociology especially concerned with attitudes is thus studies of national character. The relationship between national character and attitudes is easily seen if we think of national character as a kind of model personality in a group, and if we remember the relationship

of attitudes to personality and the formulation of the self.

The fact that attitudes characterize groups, as well as individuals, makes them centrally important for the study of collective behavior.

Industrial sociology is concerned with such attitudinal problems as the ranking of occupations by prestige, with the satisfaction or dissatisfaction of workers, and with the suitability of given individuals for particular jobs.

Almost every aspect of the study of the family is concerned with the effects of attitudes. From a theoretical point of view of interpersonal dynamics, and from a practical point of view in terms of effective counselling, it is beneficial to know how different groups differ in their attitudes, and the consequences of these attitudes for behavior.³⁰ The specific study of other institutions, such as religion, must also be concerned with similar problems.

Even Lundberg recognizes the centrality of attitudes to the study of social stratification. He notes that: "the two factors which make stratification possible are (a) an observable difference and (b) some attitude toward that difference."³¹ Sociologists such as Kahl³² have studied classes as ideal types and noted the value and attitudinal differences among them. Differentiations on the basis of attitude serve to describe the social hierarchy, and to aid in predicting and understanding different class behaviors.

In as much as attitudes may be seen as centrally relevant to the study of various institutions, and of social stratification, they are important to the areas of social organization and social disorganization. Because attitudes reflect values and motivate behavior, the area of deviant behavior must be concerned with them in terms of the diagnosis of deviant acts, the "understanding" of deviant personalities and deviant acts, and the possibilities of effective internal social control which might be achieved if undesirable or anti-social attitudes could be changed. In the same way, any sociology with a social problems orientation is concerned with attitudes as causes of problems and as obstacles to their solution. Thus, in the area of criminology, a theory such as Sutherland's Theory of Differential Association has gained rather wide acceptance. In essence the theory is concerned with the effects on criminality of attitudes favorable and unfavorable toward the law, and with the social transmission of these attitudes.³³

The sociology of knowledge may be defined as that branch of sociology which has knowledge as its object. It is concerned with the relationship of mental productions to social and cultural factors. The problem of how mental productions are related to the existential base (or stylistic structure) is explained in terms of perspectives. Mannheim's familiar typology of ideology and utopia refers to two contrasting types of perspectives (or complexes of ideas)

which are favourable and unfavourable to the maintenance of the social order. Mannheim, like Weber and other theorists in the sociology of knowledge, was concerned with the inner dimensions of reality. The basis for the sociology of knowledge can easily be interpreted in terms of attitude. Mannheims' perspectives, to take only one example, can be seen as learned (from social and cultural factors) predispositions to respond along two dimensions: affectively (in terms of favourable and unfavourable as noted above) and cognitively (in terms of belief and disbelief.) The sociology of knowledge might be seen as the study of the way socially acquired attitudes (affective and cognitive) effect behavior and are effected by the conditions which give rise to them. It is useful both in considering the influence on an individual in acquiring certain knowledge (or attitudes as defined in terms of affectivity and belief) and in analyzing how a group, as a result of its broad cultural experience, has come to accept certain attitudes and knowledge.

Even as unlikely a field as demography is concerned with attitudes. Lundberg suggests at one point that: "to the...list of demographic characteristics...we should add...the whole field of human attitudes and mores on various subjects involving the ideological status and attitude trends of the populations."³⁴

Many other examples could easily be derived from special areas of the sociological literature. The point to be made is simply that

the concept of attitude is centrally important to the discipline of sociology as a whole because it is a common denominator and link between many diverse special substantive areas.

IV. Summary

The concept of attitude is important in sociology mainly because of its unifying and integrating function. It is neutral enough to be incorporated into many theoretical orientations. Being comparatively broad and simple, it is versatile enough to be applied to a wide range of subject matters. Attitudes provide a common basis for interdisciplinary study with related behavioral sciences. Within the discipline of sociology, they are of central importance to all of the three dominant schools: the verstehen, the positivist, and the functionalist. The concept of attitude is prominent in both the theoretical and the methodological frames of reference, and contributes to a reconciliation of these divergent points of view. Attitudes are consistently important factors in almost all special areas of sociology. They are worthy of study and attention both for their own sake, and for the common focus of interest they provide among divergent approaches to the study of behavior.

FOOTNOTES CHAPTER TWO

1

Lindzey, E. (ed.) Handbook of Social Psychology. Reading, Mass.: Addison-Wesley Publishing Co., Vol. 1, 1954, p. 798.

2

Remmers, H. H. Introduction to Opinion and Attitude Measurement. New York: Harper and Bros., 1954, p. vii.

3

Bird, C. Social Psychology. New York: Appleton-Century - Crofts, 1940, p. 142.

4

Allport, G. "The Historical Background of Modern Social Psychology." Lindzey, G. (ed.) Handbook of Social Psychology. Reading, Mass.: Addison-Wesley Publishing Co., vol. 1, 1954, p. 43.

5

For the purposes of this thesis, the verstehen or understanding school will be interpreted in its broadest meaning. It will correspond to Martindale's classification of social behaviorism, and will be thought of as characterized by focus on symbolic interactionism (i.e. like Thomas and Mead) and on meaningful social action (like classical theorists as Weber, and contemporary figures like Parsons and Znaniecki.) As contrasted with positivism, it is chiefly concerned with mind, consciousness, and definition of the situation (as opposed to behavior) and with explanation and understanding (as opposed to description and prediction). Martindale, D. The Nature and Types of Sociological Theory. Boston: Houghton Mifflin Co., 1960, pp. 285-440.

6

This is not to suggest, of course, that the concept of attitude is the only such common denominator.

7

It is not possible to review major sociological schools within the scope of a few pages. Rather, a cursory comment is made about several theorists selected to illustrate the major points. They are not necessarily the 'best' or the 'most representative' of their schools. Other theorists could have been selected and the decision is arbitrary.

8

Neucomb, T. Social Psychology. New York: Dryden Press, 1950, p. 184

9

Curtis, J. H. Social Psychology. New York: McGraw-Hill, 1960, p. 214.

¹⁰Martindale, D. The Nature and Types of Sociological Theory. Boston: Houghton Mifflin Co., 1960, p. 358.

¹¹Allport, G. "The Historical Background of Modern Social Psychology." Lindzey, G. (ed.) Handbook of Social Psychology. Reading, Mass.: Addison-Wesley Publishing Co., vol. 1, 1954, p. 45.

¹²Coser, L. and Rosenberg, B. Sociological Theory: A Book of Readings. New York; McMillan, 1964, pp. 231-258.

¹³Bogardus, E. The Development of Social Thought. New York: Longmans Green and Co., 1960, p. 547.

¹⁴Ibid, p. 547

¹⁵Young, K. Source Book for Social Psychology. New York: F. S. Crofts and Co., 1927, p. 433.

¹⁶The positivist and the verstehen school may be contrasted in terms of how they explain the determination or sources of attitudes. As would be expected, these explanations are consistent with the general frame of reference and, as a result, are contradictory and mutually exclusive. The positivist school assumes an irrational model as the source of attitudes. They see man as being pushed into attitude patterns as a result of such things as the power of suggestion, group pressure, and the prestige of the source. There is a vast amount of experimental literature to support this view. Its antithesis, as presented by the verstehen school, assumed that man is rational, and therefore the basis for his attitudes is reasoning, information and logic. While men may well be capable of critical thinking, there is evidence to show that they do not often use their capabilities! (i.e. theory of cognitive dissonance). There are two major difficulties with these conflicting approaches; firstly, they do not specify the conditions under which man is as the theory suggests and secondly; the rationality-irrationality continuum is not well defined. As will be explained later, some current structural-functional theory attempts a resolution of this debate. Katz, D. "The Functional Approach to the Study of Attitudes." Public Opinion Quarterly, 24 (1960), pp. 163-204.

¹⁷Lundberg, G., Schragg, C. and Larsen, O. Sociology. New York: Harper and Row, 1963.

¹⁸Furfey, P. The Scope and Method of Sociology: A Meta-sociological Treatise. New York: Harper and Bros. 1953, p. 38.

¹⁹Lundberg, G. Foundations of Sociology. New York: MacMillan, 1939.

²⁰Asch, S. Social Psychology. New York: Appleton-Century-Crofts, 1952, p. 606.

²¹Katz, D. "The Functional Approach to the Study of Attitudes." Public Opinion Quarterly, 24 (1960), pp. 163-204.

²²Object appraisal is: "The process whereby the person develops attitudes that are a creative solution to the problems posed by the existence of disparate internal demands and the external or environmental demands." Smith, M., Bruner, J., and White, R., Opinions and Personality. New York: John Wiley and Sons, 1956, p. 41.

²³This function is not precisely defined. "Opinions play a role....of facilitating, disrupting, or simply maintaining an individual's relations with other individuals...One must distinguish the functions served by holding an opinion and by expressing it...Holding an opinion...identifies...or differentiates oneself from various reference groups within the population. (Two other functions are) the expression of a need to be autonomous from others...and...the indulgence of hostility toward others by holding opinions at odds with prevailing beliefs." Ibid., pp. 41-43.

²⁴Externalizations occur when: "an individual, often responding unconsciously, senses an analogy between a perceived environmental event and some unresolved inner problem." Ibid., p. 43.

²⁵Katz, D. "The Functional Approach to the Study of Attitudes." Public Opinion Quarterly, 24 (1960), p. 343.

²⁶Furfey, P. The Scope and Method of Sociology: A Meta-sociological Treatise. New York: Harper and Bros. 1953, p. 35.

²⁷Thurstone, L. and Chave, E. The Measurement of Attitude. Chicago: The University of Chicago Press, 1929.

²⁸It might be suggested that social psychology is an independent discipline in its own right, rather than a branch of sociology. This is partially justified (in view, for example, of the large number of texts and journals devoted to social psychology) but in the final analysis it must be seen in the perspective of a subdivision or special area of either sociology and/or psychology. Logically, its subject matter can be incorporated within the larger

scope. In practice, college curriculums generally offer social psychology courses within the framework of the mother disciplines, and books on sociological theory generally include important theorists of social psychology. Neucomb, T. Social Psychology. New York: Dryden Press, 1950. Timasheff, N. Sociological Theory: Its Nature and Growth. New York: Random House, 1957. Becker, H. and Boskoff, A. Modern Sociological Theory in Continuity and Change. New York: Dryden Press, 1957. Gittler, J. (ed.) Review of Sociology: Analysis of a Decade. New York: John Wiley and Sons Inc., 1957

²⁹Allport, G. "The Historical Background of Modern Social Psychology." Lindzey, G. (ed.) Handbook of Social Psychology. Reading, Mass.: Addison-Wesley Publishing Co., vol. 1, 1954, p. 43.

³⁰More specifically, students of the family address themselves to such problems as: - What attitudes are associated with marriage success or failure? - How do the parent's attitudes effect the adjustment of their children? - What are the consistent differences in attitudes about various aspects of the family among different nationalities? different classes? different religions? - Do these differences support existing theory, or suggest possible new theories? - What are some of the consequences of the differences?

³¹Lundberg, G. Foundations of Sociology. New York: MacMillan, 1939, p. 340.

³²Kahl, J. The American Class Structure. New York: Rinehart and Co., 1957, pp. 184-220.

³³Sutherland, G. and Cressey, D. Principles of Criminology. New York: J. B. Lippincott Co., 1960

³⁴Lundberg, G. Foundations of Sociology. New York: MacMillan, 1939, p. 461.

CHAPTER III

THE FIELD OF ATTITUDE SCALING

I. Introduction

The importance of the concept of attitude has led many searchers to try to measure it. Campbell suggests a convenient four-fold classification of types of tests for attitude measurement:

1. Non-disguised--structured: the classic direct attitude tests of Thurstone, Likert, Etc.;
2. Non-disguised--non-structured: the free response interview and questionnaire approaches, the biographical and essay studies.
3. Disguised--non-structured: the typical projective techniques;
4. Disguised--structured: tests which approximate the objective testing of attitudes.¹

The first type of attitude measurement, the non-disguised and structured type of attitude test, has been the most common approach to the problem of measuring attitudes. This thesis will be concerned only with the attitude measurement by means of attitude scaling.

A review of the field of attitude scaling will be focused on three main questions. What are the relevant factors and problems in the field? What evidence has been accumulated in research to answer these problems? What problems remain unsolved?

II. Delineation of the Field of Attitude Scaling

A. A systematic approach to the field of attitude scaling involves:

1. the justification for scaling as opposed to other approaches to attitude measurement.
2. the classification of techniques
3. the delineation of the variables within each general class of techniques.
4. the outlining of the relevant factors and criteria for comparing and evaluating the various techniques.

B. Scaling techniques can be classified into three main groups:

1. judgement methods (Thurstone)
2. response methods (Likert, Guttman)
3. a combination of both (W technique, scale discrimination).

C. For each group, there are several variables. For the judgement techniques, the following things may vary:

1. the sample of items selected from the total possible universe of attitude items.
2. the judging of these items, which is affected by such things as:
 - a) the number of judges used
 - b) the characteristics of the judges
 - c) the methods of obtaining the judgements
3. the method of processing the judgements
4. the method of presenting the scale to respondents
5. the method of scoring respondents

D. For the response methods, the following things may vary:

1. the sample of items selected from the total possible universe of attitude items.

2. the characteristics of the population on which the items are scaled (i.e. differing marginals)
 3. the processing of the responses to yield an ordering of the items
 4. the method of scoring the respondents.
- E. For the combination methods, all of the above variables must be considered.
- F. The many different techniques of attitude scaling are presumably not all of equal value. The criteria for assessing scaling techniques involve three major factors.
1. reliability.
 2. validity
 3. pragmatic concerns
- G. Reliability can be measured by:
1. the split-half technique
 2. the equivalent-form technique
 3. the test-retest technique.
- H. Validity involves three issues:
1. the attitude must be reflected in behavior (at least to some degree)
 2. the opinion must correspond to the attitude
 3. the theoretical assumptions underlying the attitude scaling technique must be met during the application of the technique.
- Validity measures are therefore concerned with:
1. the correlation of attitudes and observed overt behavior.
 2. the correlation of attitudes with other indicators of attitude (i.e. self-rating, reported behavior, case histories)

3. the honesty of reported verbal attitudes (i.e. the social desirability of certain answers, the problem of response sets)
 4. the extent to which the theoretical assumptions are justified.
- J. Pragmatic criteria are concerned with how easy an attitude technique is to use. Some considerations involved include:
1. the time involved in construction.
 2. the ease of administration in the field.
 3. the ease of scoring.
 4. the cost involved in applying the technique.

III. Summary of Research

There has been a tremendous amount of research done in the field of attitude scaling, and the literature involves hundreds of articles. This voluminous amount of material has been organized around the outline just presented. Each problem suggested in the outline is presented in sequence, with a summary of most of the relevant literature concerning it.

A. Scaling Compared to Other Approaches of Attitude Measurement

There is a general consensus in the literature, that attitude scales are superior to single questions. In 1946, McNemar did an extensive and intensive review of the literature on attitude methodology, and proposed that: "single question opinion gauging be discarded in favor of opinion measurement by attitude scales."²

He claimed that scales were superior in terms of reliability, unidimensionality, and validity. Edwards,³ concurs with McNemar and supports his stand with a discussion of the advantages and disadvantages of both approaches. Apparently little empirical work had been done to support these common sense arguments. Eysenck and Crown⁴ found that certain single items may be comparable to scales if they are selected by considering their scale value, Q score, and degree of stereotypy. This suggested method apparently has not yet been tested empirically.

McGregor⁵ studied attitudes toward war, and found that graphic self-ratings and Thurston scales yielded essentially similar results. His results were systematically and thoroughly tested by Riker.⁶ He compared Thurstone scales with self-rating graphic scales and logical intensity scales, and concluded that: "a choice among these three scales can be made purely in terms of their convenience for the problems under consideration."⁷

Taylor and Parker compared graphic self-ratings with Guttman scaling, and found that: "single attitude report questions may be as reliable as brief Guttman scales and...they may give purer measures of attitude factors. The two techniques seem to generate similar, though not identical conclusions."⁸ They acknowledge that: "the present findings are at best tentative,"⁹ and go on to suggest the use of single attitude item, combined with scaling techniques.

Techniques such as single items and graphic self-ratings appear to be comparable to scaling methods only when the items are selected during a scaling procedure.

B. Initial Sample of Items

Attitude items may be obtained from many sources, but the final selection depends mainly upon the experience of the investigator. There is no research to indicate how this should be done. Scaling techniques must simply assume that the accidental sample of attitude items subjected to various item selection techniques is representative of the attitude universe of all possible items.

There is concern in the literature regarding the form and style of attitude items. Several authors suggest common sense rules for writing and editing statements.^{10, 11, 12} Edwards provides a summary of these rules.¹³

The number of initial items considered necessary varies. Researchers generally begin with from 100 to 200 attitude statements, which are then edited.

C. Number of Judges Used

Thurstone used 300 judges to obtain his scale values. Most subsequent studies have used at least 100 judges in the construction of a scale. Barclay and Weaver express a common statement when they write: "The very nature of the Thurstone technique requires the use of a moderately large number of persons to judge the entire set

of attitude statements."¹⁴ (Barclay and Weaver 1960, p. 109) They do not define what is a "moderately large" number, but in their study, they use 100 judges. Available literature indicates, however, that this is an unnecessarily large number. Equally reliable results can be obtained with as few as 15 or 25 judges.^{15, 16, 17, 18, 19, 20.}

D. Characteristics of the Judges

Studies done by 1949 support Thurstone's assumption that the attitudes of the judges will not affect the scale values. 21, 22, 23, 24.

One contradictory study,²⁵ re-did Hinckley's work and found evidence of item displacement as a result of bias in the judges.

A later study,²⁶ reported that the item displacement effect was eliminated when the technique of paired comparisons was used (or, to a lesser extent, the technique of successive intervals) and thus was more a function of the method by which the judgements were obtained. Hinckley²⁷ did a recent follow up study of his initial article, and concludes that the attitudes of the judges makes no difference. He does not take into consideration all of the issues raised by Kelley et. al, and the issue is still not definitely decided.

E. Methods of Obtaining Judgements

It is most important that the judges understand that they are not to give their own attitude. There is little information on variations on obtaining judgements for the technique of paired

comparisons. There is evidence that, for the equal appearing intervals and successive intervals techniques, method of obtaining judgements makes very little difference, and can be chosen on the basis of purely pragmatic concerns.^{28, 29.}

The instructions given to judges are not standardized, although the phrasing developed by Seashore and Hevner³⁰ is frequently copied. The way the attitude continuum is labeled varies slightly from one study to another, but apparently makes little difference in the judgements obtained.

In general, it can be concluded that the method used to obtain judgements is: "not an important variable to the scale value of statements."³¹ Selection of the method must therefore be based on pragmatic concerns.

F. Methods of Processing the Judgements

There are three main methods of processing the judgements: paired comparisons, equal appearing intervals and successive intervals.³² Several studies have been done comparing the methods.^{33, 34, 35, 36, 37, 38}

These studies tend to de-emphasize the differences among the techniques. Available evidence, however, points to the following conclusions:

1. The method of paired comparisons seems to be the most desirable in that it has a test for internal consistency, it shows a linear relationship with other techniques, and it is slightly more reliable when a single judge is used.

2. The method of paired comparisons has serious practical defects, in terms of the difficulty of obtaining judgements, or in processing them after they are obtained. The simpler method of successive intervals appears to be nearly as good. Both are to be preferred over the EAI method.

G. Presentation of the Scale to Respondents

The arrangement of scale items in serial order by scale value does not seem to affect responses to the scale.³⁹

H. Method of Scoring Respondents - Judgement Scales

The conventional score for a Thurstone Scale is the median scale value of items agreed with. There are several alternatives as to the actual mechanics of determining the median. Mean scoring is also used, but research has pointed out that: "median scale values...are less subject to fluctuation than means."⁴⁰ Ballin and Farnsworth 1941, p. 324)

Large⁴¹ dichotomized approaches to scoring Thurstone items into two categories: endorsement methods, concerned with items the subject agreed with and rejection items, concerned with items the subject disagreed with. He calculated median and mean scores for both methods, and compared the results. Thurstone's method of median value of endorsed items was found to be the most reliable. Endorsement scores (whether median or mean) were found to be more

reliable than rejection scores.

One suggested modification is to limit the number of statements a respondent can endorse. Dunlap and Kroll limited responses to agreement with three items. They found that scores were more reliable than when unlimited responses were allowed. They conclude that the three choice technique will probably yield more valid results, compares favourably in terms of reliability, and, in view of the saving in scoring time, deserves: "favourable consideration and further investigation."⁴²

Conventional Likert scoring on Thurstone attitude scales has been found to correlate highly with conventional median scoring, indicating that both methods probably measure the same thing.⁴³

The complicated Thurstone **Weighted** Method yields essentially the same results as simpler methods and correlates very highly with them.⁴⁴

The scale product method,⁴⁵ involves multiplying the Likert weight (i.e. from 1 to 5) by the Thurstone scale value, so as to take into account both the nature of the statement and the scale value of the statement.

Edwards introduced an alternative to median scoring.⁴⁶ He selected attitude items covering the attitude continuum, presented subjects with all possible pairs, and scored respondents according to how often they chose the more favourable item of the pair.

Apparently there is no literature evaluating this method in terms of the median scoring method. It does yield acceptable reliabilities.

A recent study of Poppleton and Pilkington summarizes the literature and concludes that:

1. "summation scores given higher reliabilities than limen scores."⁴⁷
2. contrary to Eysenck and Crown,⁴⁸ the scale product method, when properly used, was found not to yield superior reliability because it tends to exaggerate small differences in the original scale value;
3. the method of weighted proportions is favoured, but "the simpler Likert method does as well."⁴⁹

J. Method of Scoring Respondents - Response Scales

The Likert method of sigma scoring is based on the normal curve transformation of the proportion of subjects choosing each category. This has been found to correlate.99 with the simpler method of assigning integral weights for the response categories, so that the highest number always indicates the most favourable attitude. Sigma scoring has thus been virtually discarded.

For Guttman scaling, responses are dichotomized to agree (weight of 1) and disagree (weight of 0). A subject's score is hence the number of items he agrees with.

K. Evaluating Attitude Scales

Many studies make general comments about what makes a 'good' attitude scale. Ferguson summarizes most of the opinions in his

list of seven requirements of an adequate attitude scale.

1. It should give results corresponding to an underlying physical order.
2. Scale values of statements chosen as landmarks should not be affected by other items in the scale.
3. The attitudes of the judges who sort statements...or the attitudes of the people taking the test, should not affect markedly scale values of the statements.
4. The content generally should be quite specific.
5. It must be valid.
6. It must be reliable.
7. It should be a measure of a linear continuum, (i.e. uni-dimensional).⁵⁰

L. Reliability

Reliability is generally measured by correlations---of equivalent forms,⁵¹ or of scale values obtained by different methods,^{52, 53} Sometimes reliability coefficients are simply stated, with no explanation as to how they were obtained.^{54,55} Most often, they are calculated by the Pearson formula for the Product-Moment Correlation.^{56, 57, 58, 59} The product-moment correlation is intended for use with interval scales. The method of paired comparisons and the method of successive intervals yield scales which may be treated as interval. If we can assume that equal appearing intervals are equal, they perhaps the method of EAI can also be assumed to yield an interval scale. Likert scales can be assumed to be interval: "only in narrow sense...in terms of the population attitude distribution,"⁶⁰ and Guttman scaling yields only ordinal data. The inconsistency

involved in using interval statistics on EAI and Likert scales, which are less than interval data, has apparently not been noted by researchers, or, if noted, has been ignored.

Saffir⁶¹ compared reliabilities by inspection of graphs.

Allardt et al. in their study of Guttman scaling compare correlations between scales using Yule's Q coefficient and chi square.⁶² This was the only instance in the literature where scale values were treated as less than interval data. The computation of means and standard deviations to compare reliabilities is common.^{63, 64}

M. Validity

Researchers in the field of attitude scaling have been primarily concerned with reliability, and have done relatively little work to establish the validity of what they are doing. Ideally, scores on attitude scales should be positively related to other external criteria indicating the presence of the same attitude. Many scales have been constructed, named, and used without any evidence that they are really measuring what they claim to measure.

One group of studies attempting to establish the validity of attitude scales has been concerned with known group validation.⁶⁵ Attitude scores, or average attitude scores, are compared with what might be expected of a certain group, on the basis of known characteristics of that group. This line of research provides only indirect evidence of validity. Only in a few cases are attitude

scores compared directly with overt behavior, and then the overt, (expected) behavior may not be accurately estimated.

A second group of studies attempt to relate attitude scores to behavior reported from other sources, such as case histories,⁶⁶ or interviewer impressions.⁶⁷

The third alternative for the assessment of the validity of attitude scales is by comparing attitude scores with overt behavior. Some studies, such as Zimmerman's on farmer attitudes,⁶⁸ or Allardt's on drinking behavior⁶⁹ report strong positive correlations. Others, such as Corey's study on student attitudes toward cheating,⁷⁰ find almost no relationship between verbal attitude and overt behavior.

Further work on the validation of attitude scaling by reference to measured overt behavior seems to be indicated.

In addition to these studies, the question of the honesty of responses indirectly involves the problem of validity. Respondents may consciously lie, or may hesitate to give socially undesirable answers. Unconscious factors, such as the development of response sets, may also distort responses. It is hoped that good interviewing techniques, the assurance of anonymity, and carefully constructed questionnaires will counteract these tendencies. Discussions of these issues involve subjective opinions and 'common sense' rather than objective research.

Research concerning the basic assumptions of scaling is also indirectly involved with the problem of the validity of attitude scales.

N. Pragmatic Concerns

Very little research has been directly concerned with the pragmatic advantages of one method of attitude measurement as compared to another. With the exception of Barclay and Weaver,⁷¹ comments in the literature reflect subjective impressions, and consist mainly of rather obvious generalizations.

IV. Comparisons of Various Scaling Techniques

Thurstone's technique of equal appearing intervals and Likert's technique of summated ratings have been the most basic and most popular of all the many attitude scaling techniques devised. Some comparative work has been done. However, information on the difference in the end products of the two techniques, or on which one is 'best', is very limited.

A complete comparison of the methods must involve the independent construction of scales by the two methods, holding all other variables constant. Only two studies have attempted this,^{72, 73} and only Edwards and Kenney have followed through to compare the final scales. Other studies have compared techniques starting from scales constructed by the Likert method⁷⁴ or by the EAI method.^{75, 76}

The general consensus of the available research supports the following conclusions:

1. The Likert method of scaling tends to yield higher reliabilities with fewer items.
 2. The Likert method of scaling tends to involve less time than the Thurstone method, but this difference becomes negligible when short cuts are incorporated into the Thurstone Technique.
 3. The Likert method does not eliminate the need for a judging group, but rather uses the sample of respondents as a judging group as well. A judging group, in the Thurstone sense, does not seem necessary for the development of an adequate attitude scale.⁷⁷
 4. Scales constructed by the two methods tend to be comparable. It might be predicted that: "The relative ordering of subjects on either equal-appearing interval scale or a summated rating scale would be, for all practical purposes, essentially the same."⁷⁸
- No studies could be found comparing Guttman scaling with Thurstone or Likert scaling.

V. Unsolved Problems of Attitude Scaling

The important unanswered problems in the field of attitude scaling are mainly those involving the question of validity. A wide variety of attitude scales have been shown to be reasonably reliable and generally practical in their application in research.

Research has failed to answer adequately the much more important question of validity. Does attitude methodology, with all its elaborate detail and expense, take us anywhere worth going? Are we in fact measuring accurately what we claim to measure?

The dimensions of validity were outlined earlier. It is generally impractical to try and assess the validity of an attitude measurement by reference to overt behavior. The relation of attitude scores to other indicators of attitude, and the question of honesty of response, are promising areas for research into the central and important question of the validity of attitude scales. Equally central to the question of validity is the extent to which the basic underlying assumptions of the various attitude scaling methodologies are justified. To the extent that the elaborate superstructures of the various scaling techniques are based on unfounded assumptions, the validity of the resulting attitude scales may be challenged.

Some of the specific and important problems of attitude scaling that have been suggested in the literature and that remain unsolved are:

1. The extent to which a single attitude item (or a single attitude item selected in a particular way) can yield results comparable to the results of an attitudes scale.
2. The extent to which graphic self-ratings and logical intensity scales can yield results comparable to the results of an attitude scale.

3. The extent to which the attitudinal characteristics of the judging group affect the scale values of Thurstone items.
4. The extent to which the method of processing the judgements makes a difference in the final scale, in what direction, under what conditions.
5. Generally, the extent to which one technique of attitude scaling is to be preferred over another, under what conditions, by what criteria? In 1954, Green, an expert in the field of attitude research, wrote: "Currently, an investigator who must choose one of the methods (of attitude scaling) can find very little information on which to base his choice. More experimental and analytical comparisons of the methods are needed."¹⁹

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PART TWO

AN EMPIRICAL STUDY

CHAPTER IV

GENERAL INTRODUCTION

I. Statement of the General Problem

The concept of attitude is important in sociology. This importance of the concept has led many researchers to attempt to measure it. The most common approach has been that of attitude scaling. Hundreds of studies have been done. Generally, their results are considered acceptable sociological research. However, the results of research based on attitude scales can only be as good as the validity and reliability of those scales. Validity and reliability are functions of the acceptability of the underlying assumptions and the methodology used in scale development. In order for sociologists to evaluate research already done, and to plan future research as efficiently as possible, it is important to try to answer certain questions. Are we justified in placing confidence in studies based on attitude scaling? If so, is attitude scaling the most desirable approach to the problem of attitude measurement? If scaling is valuable, which techniques of scale construction are 'best', under what conditions, by what criteria?

The problem proposed is to examine certain basic assumptions underlying attitude scaling, and to compare various techniques of scale construction. Relevant hypotheses will be tested while developing scales concerning the universe of attitudes toward the drinking

of alcoholic beverages. The major goal of the thesis is to clarify some problems in attitude methodology. A secondary goal is to develop practical scales for use in the field of alcoholism studies.

II. The Development of Hypotheses

An empirical study was planned to explore some of the unsolved problems of attitude scaling outlined in Chapter Three. The attitude scales selected were successive intervals scales, equal appearing intervals scales, Likert scales and Guttman (Goodenough) scales. For comparative purposes, two other attitude measures were introduced: a single item poll and a graphic self-rating. A behavior scale was incorporated for the purpose of validity checks.

Hypotheses were formulated around three main concerns: firstly, basic assumptions of attitude scale construction; secondly, a comparison and evaluation of various methods of attitude scale construction, in terms of the criteria of reliability and validity; and thirdly, a comparison and evaluation of attitude scaling with other approaches to attitude measurement, in terms of the criteria of reliability, validity and pragmatic concerns.

III. Hypotheses

Six hypotheses were tested. By convention, the hypotheses took the form of the null hypothesis of no difference. Details and explanations of these hypotheses and sub-hypotheses are presented

in Chapter VI during the data analysis. Where significance tests were appropriate, rejection was at the .05 level. The six hypotheses, and sub-hypotheses are presented in Table 4.1

TABLE 4.1 HYPOTHESES

<u>Hypothesis One:</u>	Thurstone-type attitude judgements will not be affected by the attitude of the judges.
Sub-Hypothesis One A:	For the method of EAI, the scale values of the attitude statements will not be affected by the attitudes of the judges.
Sub-Hypothesis One B:	For the method of SI, the scale values of the attitude statements will not be affected by the attitudes of the judges.

Hypothesis Two:	The methods of EAI and SI will produce comparable scales.
Sub-Hypothesis Two A:	Other things being held constant, the position of attitude items on the attitude continuum will be essentially the same by either method.
Sub-Hypothesis Two B:	The measurement of attitude will be equally reliable by either method, as measured by equivalent form reliabilities.
Sub-Hypothesis Two C:	Other things being held constant, the ordering of respondents on the attitude continuum will be essentially the same by either method.
Sub-Hypothesis Two D:	The measurement of attitude will be equally valid by either method, as measured by comparisons with reported behavior.

TABLE 4.1 cont'd

Hypothesis Three: Likert scales will yield essentially the same results as Thurstone scales.

Sub-Hypothesis Three A: Likert summation scores and EAI and SI mean scores will be equally reliable, as measured by equivalent form reliabilities.

Sub-Hypothesis Three B: Likert summation scores and EAI and SI mean scores will be equally valid, as measured by comparisons with reported behavior.

Hypothesis Four: Scalogram methods will yield essentially the same result as other attitude scaling methods.

Sub-Hypothesis Four A: Guttman scales and judgement scales (EAI and SI) will have the same ordering of attitude items.

Sub-Hypothesis Four B: Guttman scales and the judgement scales (EAI and SI) will be equally valid, as measured by comparisons with reported behavior.

Sub-Hypothesis Four C: Guttman scales and response scales (Likert) will be equally valid, as measured by comparisons with reported behavior.

Hypothesis Five: Graphic self-rating methods will yield essentially the same results as attitude scaling methods.

Sub-Hypothesis Five A: Graphic self-rating methods will yield the same ordering of respondents as attitude scaling methods.

Sub-Hypothesis Five B: Graphic self-rating methods and attitudes scaling methods will be equally valid, as measured by comparisons with reported behavior.

TABLE 4.1 cont'd

<u>Hypothesis Six:</u>	A single item poll will yield essentially the same results as attitude scaling methods and graphic self-rating methods.
Sub-Hypothesis Six A:	A single item poll will yield essentially the same ordering of respondents as attitude scaling methods.
Sub-Hypothesis Six B:	A single item poll will yield essentially the same ordering of respondents as graphic self-rating methods.
Sub-Hypothesis Six C:	A single item poll will yield as valid results as other measures of attitudes, as measured by comparisons with reported behavior.

IV. Selection of the Attitude Universe

The main purpose of this thesis was to test hypotheses about attitudes and attitude measurement, while developing attitude scales. The actual subject matter of the scales was thus a secondary interest. Any subject or attitude universe could have been chosen. The initial step was to select the area of attitudes concerning alcohol as the general field of interest. A primary consideration was the fact that attitudes concerning alcohol are significant for the sociology of alcohol use and alcoholism(s). Many studies indicate that the use of alcohol is a function of culture. In addition, attitudes toward alcohol per se, toward drinking, toward drunkenness and toward alcoholism and alcoholic are significant determinants of the inci-

dence and extent of drinking, and alcoholism. A secondary consideration was purely pragmatic. The research program of the Alcoholism Foundation of Alberta generously provided funds for social research within its area of interest.

A. Review of the Literature

A survey of the literature revealed two major attempts to scale attitudes concerning alcohol. The first of these was a Guttman scale developed by students in a seminar in Sociology at the University of Helsinki in 1957.¹ The second was done by Pennington and Passey for the Alabama Commission on Alcoholism in 1960.² Linsky, in a 1963 study in Vancouver, Washington used a modified version of the Alabama Pennington and Passey scale.³ Each of the studies will be reviewed in some detail.

1. The Finnish Study

In 1956, a sociology seminar at the University of Helsinki undertook, as a class project, to study various aspects of drinking in Finland. One part of the project was the development of a scale to measure attitudes towards drinking. The scale was developed in Finnish, and has only been used once on a Finnish population.

The technique of scaling chosen was the Guttman technique. Four areas of attitude were delineated: The Drinking-and-Joy Scale, the How-to-Drink Scale, and Value of Drunkenness Scale, and the Friend-

ship and Drinking Scale. There were from four to six items in each scale, and they were found to form unidimensional Guttman scales with coefficients of reproducibility of more than .94. Apart from reproducibility coefficients, the reliability of the scales was not analyzed.⁴

Intensity analysis revealed that: "People who have a negative attitude towards drinking and towards some aspects of drinking hold their attitudes more strongly than those who have a positive attitude towards drinking."⁵ Further analysis into the dimensions of the preliminary attitude scales noted above revealed strong correlations between the Drinking-and-Joy Scale, the Value of Drunkenness Scale and the Friendship and Drinking Scale. The study concluded that: "There are two kinds of attitudes towards drinking, one relating to drinking permissiveness and the other related to the question of how to drink."⁶ The analysis in Drinking and Drinkers is in terms of dichotomies based on these scales. The study deals with permissive and non-permissive groups, based on the Drinking Permissiveness scale, and occasional-unrestrained and regular-restrained groups based on the How-to-Drink scale.

The Finnish scale, although apparently competently done, is inadequate for research in English speaking countries because of the language barrier. The scaling of attitude items is affected by the wording and the connotations of the items. When items are translated from one language to another, even if the idea is essentially the same, they cannot be assumed to still scale for the

foreign population.

2. The Alabama Study

In 1960, the Alabama Commission on Alcoholism sponsored a research project to develop scales for the measurement of attitudes toward alcohol and its use, under the direction of Dr. D. Pennington and Dr. G. Passey.

Five areas of attitudes toward alcohol were delineated: Treatment of Alcoholism, Education Concerning Alcoholism, Legal and Social Control of Alcohol, Moderate Social Drinking, and Alcoholism and the Alcoholic. The method chosen for developing the five desired scales was the Scale Discrimination Technique, as developed by Edwards and Kilpatrick in 1948.⁷

At first glance, the Pennington and Passey study appears to be very relevant and valuable. However, opinions as to its worth vary widely, and the general consensus appears to be that it is inadequate. Linsky thought the scales were: "undoubtedly the most reliable and comprehensive instruments available for the measurement of attitudes in this area."⁸ He went so far as to base his entire study on the Alabama work. On the other hand, Marcus, writing in 1962 for the Ontario Alcoholism and Drug Addiction Research Foundation, felt that "Techniques for the Assessment of Selected Attitudes Toward Alcohol and its Use" presented "a measuring instrument which in every respect can be considered unsatisfactory."⁹

Marcus goes on to discuss some of the errors and limitations to be found throughout the report.¹⁰

3. The Linsky Washington Study

In 1963, the Washington State Department of Health sponsored a survey on Community Attitudes and Knowledge on Alcoholism, under the direction of Arnold Linsky and Milo Kurle. This is the most recent work we found in the literature. Its meager bibliography supports the conclusion that literature in this area is sparse indeed.

Linsky based his study on the Alabama research. The attitude scale was part of a more comprehensive questionnaire. To develop it, Linsky selected three areas from the Pennington and Passey study (Moderate Social Drinking, Alcoholism and the Alcoholic, and Treatment of Alcoholism). Then he simply took every other item from the scales.

The Vancouver project can only be as valid as the Alabama research. If anything, it will be less valuable because it is less complete. Linsky did not contribute anything to the development of the attitude scale.

4. Summary of the Literature

Only three studies were found regarding the measurement of attitudes concerning alcohol. Some studies may have been overlooked. The Alcoholism and Drug Addiction Research Foundation in Toronto is

apparently developing an instrument for attitude measurement, but the results have not yet been published. As far as can be determined, no satisfactory scale has been developed to measure attitudes concerning alcohol.

B. Selection of the Specific Area

Two good reasons for selecting attitudes concerning alcohol as an area of interest are that they are of theoretical significance, and that no satisfactory scale has been developed in this area. However, the general area of attitudes concerning alcohol is much too broad to be assessed by attitude scaling without first breaking it into smaller areas. It was decided to develop scales concerning attitudes toward social drinking. This specific attitude universe was chosen in preference to the many other possible areas for several reasons. In the first place, both the Finnish and the Alabama study considered it to be important. Secondly, there is reason to expect attitudes in this area to form scales. The Finnish research of Allardt et al establishes that: "there exist specific attitudes towards drinking, which are unidimensional according to the Guttman criteria."¹¹

The hypotheses of this study are concerned with the validity of attitude scales. Within the area of attitudes concerning alcohol, the Finnish study has established that: "There is a correspondence between verbal attitudes toward drinking and overt drinking behavior."¹²

Thus it is feasible to use overt drinking behavior as an index of validation for the attitude scale. There are some attitudes for which the correspondence of verbal attitude and overt behavior is not known. When this is so, an observed discrepancy between verbal attitudes and overt behavior could either represent an accurate picture of reality or could result from an invalid attitude scale. We do know, however, that generally speaking, people with favourable attitudes towards drinking alcoholic beverages will tend to drink more than people with unfavorable attitudes. If this is not the case, we can justifiably question the validity of the attitude measurement.

Finally, the measurement of the overt behavior corresponding to attitudes towards social drinking is relatively easy. Indices are available to assess the amount of drinking actually done, and one can expect reasonably honest answers from respondents.

C. Selection and Editing of the Initial Sample of Attitude Items

There are few guides for the selection of the initial attitude items for attitude scaling. Two steps were involved. Firstly, items were selected from other studies. Forty-one items were selected from an early version of Pennington and Passey's scale of attitudes toward Moderate Social Drinking.¹³ All items relevant to social drinking were selected from the four scales of the Finish study.¹⁴ Secondly, the literature on the sociology of alcohol use was reviewed, and attitude items constructed to reflect

various opinions and ideas expressed in the literature. These procedures yielded an initial sample of the attitude universe of 160 items.

The attitude items were then edited according to the standard rules for the form and content of attitude statements.¹⁵ Twenty-seven items were eliminated, leaving a sample of 132 statements; 69 favourable towards drinking alcoholic beverages, and 64 unfavourable.

FOOTNOTES CHAPTER FOUR

¹Allardt, E., Markkanen, T. and Takala, M. Drinking and Drinkers, Three Papers in Behavioral Sciences. Stockholm, Sweden: The Finnish Foundation for Alcohol Studies, Almquist and Wiksell, 1957.

²Pennington, D. and Passey, G. Techniques for the Assessment of Selected Attitudes Toward Alcohol and Its Use. Montgomery, Alabama: The Alabama Commission on Alcoholism, 1960.

³Linsky, A.S., and Kurle, M.P. Community Attitudes and Knowledge on Alcoholism, Vancouver Survey. Olympia, Washington: Washington State Department of Health, 1963.

⁴Allardt, E., Markkanen, T. and Takala, M. Drinking and Drinkers, Three Papers in Behavioral Sciences. Stockholm, Sweden: The Finnish Foundation for Alcohol Studies, Almquist and Wiksell, 1957, p. 21.

⁵Ibid., p. 26.

⁶Ibid., p. 28.

⁷Edwards, A. Techniques of Attitude Scale Construction. New York: Appleton-Century-Crofts, 1957, ch. 8.

⁸Linsky, A. S., and Kurle, M.P. Community Attitudes and Knowledge on Alcoholism, Vancouver Survey. Olympia, Washington: Washington State Department of Health, 1963.

⁹Marcus, A. Description and Discussion of "Techniques for the Assessment of Selected Attitudes Toward Alcohol and Its Use". Toronto: Alcoholism and Drug Addiction Research Foundation, 1962. (Unpublished Typewritten Research Report.)

¹⁰Because the reader does not have access to the Pennington and Passey study, it is difficult to discuss specific flaws without going into excessive detail. Some of the shortcomings include: mechanical and clerical errors which confuse the identification numbers of attitude items; the concentration of attitude items at the unfavourable extreme of the attitude continuum; the low value of "acceptable" phi scores; the failure to calculate MMR values for the Guttman scales; and the careless wording of some of the attitude items.

¹¹ Allardt, E., Markkanen, T., and Takala, M. Drinking and Drinkers, Three Papers in Behavioral Sciences. Stockholm, Sweden: The Finnish Foundation for Alcohol Studies, Almquist and Wiksell, 1957, p. 23.

¹² Ibid., p. 47.

¹³ Pennington, D., and Passey, G. Techniques for the Assessment of Selected Attitudes Toward Alcohol and Its Use. Montgomery, Alabama: The Alabama Commission on Alcoholism, 1960, Appendix B-4.

¹⁴ Allardt, E., Markkanen, T., and Takala, M. Drinking and Drinkers, Three Papers in Behavioral Sciences. Stockholm, Sweden: The Finnish Foundation for Alcohol Studies, Almquist and Wiksell, 1957.

¹⁵ Edwards, A. Techniques of Attitude Scale Construction. New York: Appleton-Century-Crofts, 1957, p. 13.

CHAPTER V

THE RESEARCH DESIGN FOR DATA COLLECTION

I. Summary of the General Design

The general design involved the construction and administration of several scales designed to measure attitudes toward drinking alcoholic beverages. The research procedures were planned to allow three types of comparisons to be made: comparisons of scales developed by different scaling techniques; comparisons of attitudes scaling with other approaches to attitude measurement; and comparisons of measured, verbal attitudes to self-reported behaviour.

Two questionnaires were constructed and administered. The first, called the Judging questionnaire, was constructed mainly for the development of the attitude scales, and was administered to a small, purposive sample. The second, called the Testing Questionnaire, was constructed mainly for the administration and testing of the attitude scales, and was administered to large, random samples of the general population.

II. Development of the Judging Questionnaire

A. The General Format.

The purpose of the judging questionnaire was four fold. Firstly, Thurstone judgments of the scale position of the attitude

items were required, for the development of equal appearing intervals scales and a successive intervals scale. Secondly, it was desired to assess the respondent's own attitude. Thirdly, the respondent's own perception of his attitude toward drinking alcoholic beverages was wanted. And finally, it was necessary to assess the respondent's own drinking behaviour.

1. Thurstone Judgements

The initial sample of items consisted of 133 items. These items were ordered randomly on the questionnaire to minimize the possibility of bias due to response sets. The items were numbered consecutively, and they were ordered by using a table of random numbers.

The procedure for obtaining Thurstone judgements for the attitude items was modelled after a technique used by Hinckley.¹ The instructions given the respondents are shown in Appendix A. They are a modified form of the standard set of instructions.² Respondents were shown an attitude continuum, marked from category I to category II, and labeled "Very Unfavourable" under category I, "Neutral" under category 6, and "Very Favourable" under category II. They were instructed to place the number of the appropriate category in a space to the right of each attitude item.³

2. Attitude Index

In Part Two of the Judging Questionnaire, the respondent was asked to indicate his own attitude response to the attitude

items he had just judged. (The item order was held constant.) This procedure yielded a rough index of the respondent's attitude toward drinking. Six response categories (Strongly Agree, Agree, Mildly Agree, Mildly Disagree, Disagree, Strongly Disagree) were used. Generally, only five categories of response are given for Likert scales. However, some studies do use six,⁴ and the use of an even number makes dichotomizing of responses simple and accurate. The information supplied to this point is sufficient for all kinds of response and judgement scaling techniques. The Likert response categories were assigned arbitrary weights from 1 to 6, with the highest number always indicating the most favourable attitude. This method correlates .99 with the more complicated and difficult sigma scoring method, and is much easier and quicker to use.

3. Self-rating

The respondents own perception of his attitude towards the drinking of alcoholic beverages was assessed by a graphic self rating technique, similar to the one used by Taylor and Parker.⁵ The respondent indicated his own position by circling a number on a continuum like the one used for making judgements.

4. Drinking Behaviour Index

The amount of drinking actually done by the respondent was measured by the Alberta Quantity Frequency (AFQ) Index. As the name suggests; the Index measures drinking behaviour by taking into

account both how much the respondent drinks, and how often he drinks. It was chosen because it was a revised and improved version of other indexes found in the literature,^{6,7,8} and because it was originally developed for use on Alberta populations.

Information about the AQF index has not yet been published. Details of its development can be found in unpublished manuscripts by Dr. R. Laskin and Mr. P. Nash.^{9, 10}

Information was elicited from the respondents by two standard questions incorporated into the judging questionnaire. (See Appendix A)

1. Could you give me some estimate of about how often, during this past year, you have had one or more drinks?

_____ not at all

_____ 1 to 3 times a year (Xmas, etc. occasions)

_____ 4 to 8 times a year (about every other month)

_____ 9 to 15 times a year (about once a month)

_____ 2 to 3 times a month (Less than once a week)

_____ about once a week

_____ about 3 to 5 times a week

_____ every day (or almost every day)

2. Not counting any extreme experiences, about how much....

beer do you usually drink at one sitting?

_____ glasses OR _____ bottles

wine do you usually drink at one sitting?

_____ glasses (OR _____)

straight liquor (Incl. Liqueur) at one sitting?

_____ "shots" (OR....)

mixed drinks do you usually drink at one sitting?
_____drinks

other types of drinks? (Type _____)
_____drinks

B. Selection of the Judging Group

Judges were selected on the basis of known characteristics regarding their drinking behaviour and their attitudes towards drinking. No attempt was made to approximate a random sample of the general population, and no detailed information regarding the characteristics of the judges was reported. It was desired to select two distinctly different groups: a group of judges with very favourable attitudes towards the drinking of alcoholic beverages, and a group with very unfavourable attitudes. The 'favorable' judges consisted of acquaintances known to be fairly heavy drinkers and of some firemen and some members of the Royal Canadian Legion. The 'unfavourable' judges consisted of members of the Salvation Army, The First Mennonite Church, and some personal acquaintance known to be either abstainers or very light drinkers.

Sixty-seven questionnaires were administered. Nine of these were later discarded because the judges apparently did not understand what was expected of them in making Thurstone judgments. The basis for the elimination of these judges was arbitrarily based on item Number Two of the questionnaire. This item reads: "Drinking in general, is desirable." Any judge who rated this obviously favourable statement as unfavourable (i.e. from one to five inclusive

on the Thurstone scale) was assumed not to have understood the instructions.

At least one half of the judges probably had an education level of less than some university training. Thus, while the purposive sample composing the judging group does not pretend to approximate a random sample, it is diverse enough that the resulting scale should be applicable to the general public. Many attitude studies have done their preliminary scaling on populations of university students. It seems reasonable, however, that items which might scale on a highly literate population might not scale on the less literate general public. The inclusion in the judging sample of people with less than a university education is intended to insure the applicability of the final scale for the general public.

C. Processing of Judging Questionnaires

1. Recording of Thurstone Judgements

The judgements recorded on the questionnaires were punched on IBM cards and run through a card sorter to determine the distribution of judgements over the eleven categories.

2. Scoring of the Attitude Index

The six response categories were assigned arbitrary weights from 1 to 6 in such a way that the higher number always indicated the more favourable response. A respondent's score was simply the sum total of his attitude responses. The possible range of scores

on the 133 items was thus from 133 to 798. The actual range of scores was from 185 to 673. Some respondents failed to answer all 133 items. In these cases, the respondents average score was calculated, and all answered items were assigned this score. This step was necessary to insure the comparability of total scores calculated from different numbers of items. This procedure is only a crude measure of attitude, but it can be assumed to give a rank ordering of respondents. It is similar to the rank ordering procedure used in Guttman scaling. We know that a person with a high score is more favourable towards drinking alcoholic beverages than a person with a lower score.

3. Scoring of the Drinking Behaviour Index

The AQF index designates five types of drinkers, as shown in Table 5.1. Respondents were classified on the basis of this system into six groups.

III. Construction of the Successive Intervals Scale

One of the concerns of this thesis was to relate attitude to behaviour. In order to do this, it was necessary to have an accurate attitude measuring instrument available early in the research process for use in the field. This instrument would be used for data collection and as a standard for comparison with other attitude scales and measurement methods.

A review of the literature indicated that the most satisfactory judgemental scaling technique appears to be the method of

TABLE 5.1. THE ALBERTA QUANTITY FREQUENCY DRINKING INDEX

AFQ Category	Description ^a	Frequency ^b
Abstainer	33
Type I (Light)	One to eight times a year, small to small-medium amounts.....	42
Type II (Light-Medium)	One to three times a month, small to small-medium amounts.....	46
Type III (Medium)	Once or twice a week, small to medium amounts; and one to eight times a year, medium to large amounts....	42
Type IV (Medium-Heavy)	One to three times a month, medium to large amounts; and daily (or almost daily) small to medium amounts	32
Type V (Heavy)	Once to twice a week, medium to large amounts to daily large amounts.....	22

^aThe three classifications of quantity are designed so that they contain the same amount of absolute alcohol regardless of beverage type. Each classification is specifically defined. Small amounts are 1-4 glasses beer; 1-2 bottles beer, 1-3 glasses wine; or 1-2 glasses spirits. Medium amounts are 4½ glasses beer; 2½ bottles beer, or 2½ glasses spirits. Large amounts are 8½ or more glasses beer, 4½ or more bottles beer, ½ a bottle or more wine; or 4½ or more glasses of spirits. The Small-Medium classification is used when a small amount of one type (wine, spirits, beer) and a medium amount of another type is drunk. The Medium-Large classification is used when a medium amount of one type and a large amount of another type is drunk. The Small-Large combination of different types of liquor is regarded as a medium quantity category.

^bFrequencies were the number of respondents in each class in random samples of High Prairie and Peace River.¹¹ It will be noted that all categories were well represented.

successive intervals. It appears to yield results close to those achieved by the method of paired comparisons but is not as laborious. It appears to be more free from the influence of judges' own attitudes than is the method of equal appearing intervals.¹²

The basic measuring instrument was thus constructed by the method of successive intervals. As a precaution against distortion, all of the judges were used, regardless of attitude. Any distorting effects would thus, hopefully be cancelled out.

A. Methodological Procedures

The methodological procedures for the construction of a Successive Intervals Scale were taken directly from Chapter Five of Techniques of Attitude Scale Construction.¹³ Q values were not calculated for each item. However, inspection of the frequency distributions indicated that some items showed little or no consensus regarding their appropriate position on the attitude continuum. Those items which had almost I shaped distributions were eliminated as being obviously unsatisfactory items. Twenty-eight items were thus eliminated.

The width of the intervals and the cumulative widths are shown in Table 5.2. The attitude continuum extends from 0 to 3.586. The remaining 105 items were then scaled on this continuum. The scale values were taken as the medians of the corresponding cumulative proportions on the continuum, and were computed by formula.¹⁴ Scale values ranged from .726 to 3.042.

TABLE 5.2 WIDTHS AND CUMULATIVE WIDTHS OF THE SUCCESSIVE INTERVALS

	Successive Intervals									
	2-1	3-2	4-3	5-4	6-5	7-6	8-7	9-8	10-9	
Width of Interval	.712	.386	.300	.211	.184	.447	.297	.255	.336	.478
Cumulative width of Interval	.712	1.098	1.398	1.609	1.773	2.220	2.517	2.772	3.108	3.586

B. Selection of the Final Scale

The range of the attitude continuum actually covered by items was from .726 to 3.042, a distance of 2.316 units. It was desired to select two twelve-item scales from these items, in such a way that the scale values distributed over the entire range. The resulting scales, called Scale I and Scale II, were constructed so that equivalent form reliability checks could be made later in the research. The first step was to divide the measured continuum into twelve equal increments. The mid-point for each of these sections was then found. This data is given in Table 5.3.

The attitude items were not equally distributed over all twelve increments. There were very many items at the very unfavorable end of the scale, an adequate number at the favorable end, but only a few in the middle categories. Items were selected by two criteria. It was desired that they be as close as possible to the mid-point of one of the twelve increments on the scale and that they have a relatively small Q value. The Q values were not

actually calculated, but were plotted graphically.¹⁵ This was adequate for all increments except numbers five, six, and seven. In increment five there was only one item. This item had a satisfactory Q and was taken as common for both Scale II. In increment six, there was only one item, but it had a very high Q and was considered too ambiguous to use. In increment seven, there were two satisfactory items, and they were both used.

TABLE 5.3. DISTRIBUTION OF FINAL SCALE ITEMS OVER THE ATTITUDE CONTINUUM

Increments	Range of Unit	Mid-point of Unit	Scale I Item No.	Scale Value	Scale II Item No.	Scale Value
1	.726 - .918	.822	33	.814	23	.828
2	.919 - 1.111	1.015	31	1.002	36	1.017
3	1.112 - 1.304	1.208	42	1.208	106	1.263
4	1.305 - 1.497	1.401	59	1.353	81	1.407
5	1.498 - 1.690	1.594	88	1.686	88	1.686
6	1.691 - 1.883	1.787				
7	1.884 - 2.076	1.980	91	1.940	1	2.039
8	2.077 - 2.269	2.173	87	2.139	30	2.237
9	2.270 - 2.462	2.366	40	2.331	73	2.375
10	2.463 - 2.655	2.559	35	2.554	53	2.592
11	2.656 - 2.848	2.752	115	2.743	66	2.782
12	2.849 - 3.042	2.945	15	2.906	14	3.009

The final forms of the successive intervals scales are shown in Tables 5.4 and 5.5. These twenty-one items were then incorporated into the testing questionnaire and administered to large samples of the general population.

TABLE 5.4. SUCCESSIVE INTERVALS SCALE I.

Item No.	Item	Scale Value
33	Drinking is a very undesirable kind of behaviour.	.814
31	It is difficult to respect someone who is a drinker.	1.002
42	Despite the fact that many millions do use alcoholic beverages, their use is degrading.	1.208
59	People would be better off if they did not drink.	1.353
88	Drinking may not be a sin, but it is not quite respectable either.	1.686
91	People might be better off if they did not drink so much, but it really does not make much difference.	1.940
87	Moderate drinking should be regarded as neither good nor evil.	2.139
40	Drinking itself is desirable, although it may have some undesirable consequences.	2.331
35	It is reasonable to drink if one enjoys the taste of alcoholic beverages.	2.554
115	It is quite natural that good friends should have a drink or two.	2.743
15	A few drinks are quite relaxing after a hard day's work.	2.906

TABLE 5.5. SUCCESSIVE INTERVALS SCALE II.

Item No.	Item	Scale Value
23	A person who drinks shows selfish unconcern for the welfare of others.	.828
36	People who have been drunk should feel guilty.	1.017
106	Alcohol always brings false happiness.	1.263
81	All drinking should be as limited and as closely controlled as possible.	1.407
88	Drinking may not be a sin, but it is not quite respectable either.	1.686
1	It is up to the individual whether he drinks or not.	2.039
30	Drinking is an individual private concern.	2.237
73	If a person likes drinking, then let him drink.	2.375
53	People tend to exaggerate the harm that social drinking does.	2.592
66	It is fun to have a few drinks occasionally.	2.782
14	Moderate social drinking is quite acceptable.	3.009

IV. Construction of the Equal-Appearing Intervals Scales

After the construction of the successive intervals scales, it was desired to construct equal appearing intervals scales, using the same attitude items and the same judges. This part of the research design had two purposes. Firstly, it enabled comparison of

results of two attitude scaling methodologies, with other variables held constant. Secondly, it facilitated the testing of the basic scaling assumption that the attitudes of the judging groups do not affect their judgements.

A. Selection of Two Groups of Judges on the Basis of Their Attitudes

The testing of hypotheses regarding the affect of judges' attitudes on their judgements necessitated the selection of two groups: a group of judges with definitely favourable attitudes towards drinking; and a group of judges with definitely unfavourable attitudes towards drinking. Three indices of attitude were available from data in the Judgement questionnaire: the raw score on the 133 Likert-type attitude items, the self-rating, and the AFQ index of actual drinking behaviour. The attitude items yielded a rank ordering of respondents in terms of attitude. However, the attitude score was unrefined, and not based on an adequately processed attitude scale. To insure that validity of attitude scores, therefore, it was decided to include the other two attitude indices. Specifically, the following steps were executed.

1. The distribution of attitude scores was plotted graphically, and found to be bi-modal. The total group of respondents was dichotomized on the basis of attitude scores. The cutting point selected was arbitrary, but was based on examination of the distribution. Attitude scores over 490 were considered favourable; attitude scores less than 490 were considered unfavourable.

2. The self-rating index was then taken into consideration. All respondents who rated themselves as 'neutral' in attitude, or whose self-rating was inconsistent with their attitude score, were eliminated.
3. Finally, the drinking behaviour of the respondent was taken into account. In the favourable group, with high attitude scores and a favourable self-rating, only those respondents with an AQF score of V or IV were included. In the unfavourable group, with low attitude scores and unfavourable self-ratings, only those respondents who were abstainers or very light drinkers (AQF score of 0 or 1) were included.

The result of this selection process was two groups of 21 respondents each. One group, hereafter called Group A consisted only of respondents with definitely-unfavourable attitudes towards the drinking of alcoholic beverages. The second group, called Group B, consisted only of respondents with definitely favourable attitudes towards drinking alcoholic beverages. The attitudes were measured by the consensus of three separate attitude indexes: attitude score, self-rating, and actual behaviour. All cases where the three indexes were inconsistent were eliminated as ambiguous.

B. Methodological Procedures

The methodological procedures for the construction of the equal-appearing intervals scales were taken directly from Chapter Four of Techniques of Attitude Scale Construction.¹⁶

By this procedure, for each attitude items selected for the successive intervals scales, three equal-appearing intervals scale values were found: one based on the total group of judges; one based on only Group A (unfavourable); and one based only on Group B (favourable).

V. Selection of An Attitude Item for a Single Item Poll

It was desired to compare the results of a single attitude item poll with an attitude scale. In the literature, only one source¹⁷ suggested objective, rather than subjective, means of selecting a single item for an attitude poll. The criteria suggested for the selection of a single item were that it have a low stereotype value, and an equal appearing intervals scale value of approximately eight on an eleven point scale. Item Number 66, ("It is fun to have a few drinks occasionally."), was selected for the single item poll, on the basis of these criteria. Item 66 has a scale value of 8.43. It has a low Q, and appears to avoid the problem of stereotype. It is part of Successive Intervals Scale II.

VI. Development of the Testing Questionnaire

A. General Format

The testing questionnaire was incorporated as part of a larger questionnaire used by Dr. Laskin in a research project for the Alcoholism Foundation of Alberta. The parts that were relevant for this study are given in Appendix B. Information sought was

general background information about the respondents (Questions 1-9); responses to the two Successive Intervals Attitudes Scales (Item 1-23); responses to the AQF Drinking Index (Questions 1, 2, 4, and 5). The form of the questions was in accord with that of the Judgment Questionnaire. These general areas formed the basic data for the testing of the hypotheses.

B. Administration

The testing questionnaire was administered by personal interviews. Nine interviewers were used during the course of the research. All were carefully briefed before conducting any interviews, and the questionnaires carefully checked at the conclusion of each interview.

A letter of introduction was available for use at the interviewer's discretion and is shown in Appendix C. Other than this letter, there was no formal introduction or presentation to the respondent. When the attitude items were asked, respondents were handed a card showing the possible response categories. Interviews took about fifteen minutes.

C. Selection of the Sample of Respondents

It was desired to administer the testing questionnaire to a cross-section of the general population. Since it was not possible to select a random sample of general population of a province, much less a country, it was decided to select small areas, and do random samples within them. The areas selected were the cities of

Grande Prairie (population about 10,500) and Red Deer (population about 26,000).¹⁸

1. Selection of the Sample--Grande Prairie

The goal of the sampling procedure was to select a representative sample of the adult population of the City of Grande Prairie. The steps of the sampling procedure were as follows:

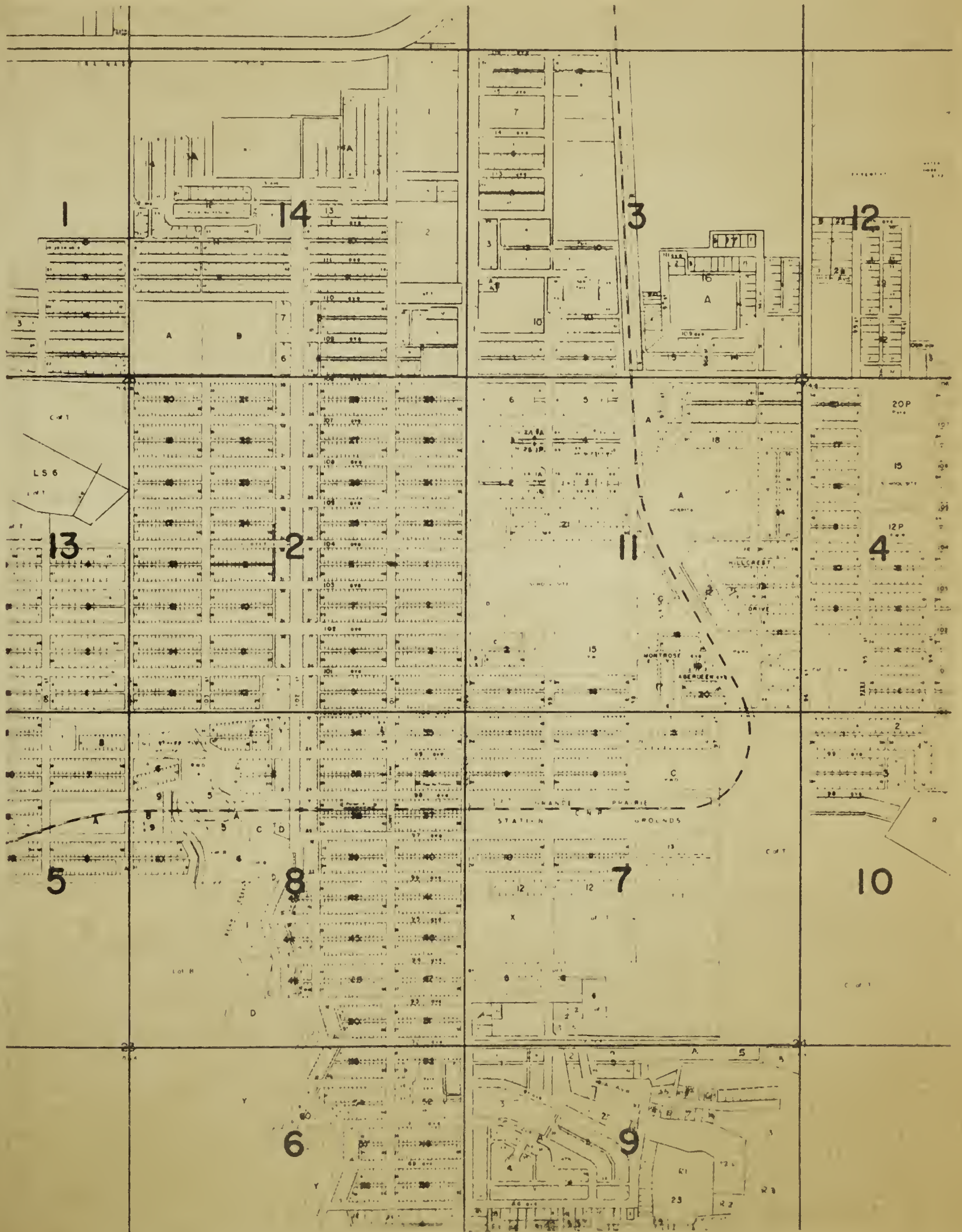
- a) The City of Grande Prairie was divided into fourteen areas, on the basis of quarter sections, as shown in Figure 5.1.
- b) These areas were numbered randomly from one to fourteen.
- c) Information was obtained from the City Planning Commissionaire as to which buildings were multiple dwelling units.
- d) Each interviewer was given a large map of one quarter section area of the city, on which were indicated all buildings, and all multiple dwelling units.
- e) Interviewers began at the northwest corner of their area and systematically numbered each dwelling unit.
- f) Interviews were conducted in every tenth house in each area.

The interviewer did his initial interview in the house with the same number as the last digit of his area. Thus, in area 14, the interviewer conducted interviews in the fourth dwelling unit, the fourteenth, the twenty-fourth and so on.

- g) Interviewers interviewed men and women in alternate houses. In even numbered areas, the interviewer began with a woman; in odd numbered areas, the initial interview was with a man.

FIGURE 5.1

MAP OF THE CITY OF GRANDE PRAIRIE



- h) Interviewers called at each selected address at least three times. If, on the third call, there was still no response, they interviewed in the dwelling unit immediately to the left or to the right, depending upon which most closely resembled the dwelling unit originally selected.

The selection procedure identified 264 dwelling units in which interviews were to be conducted.

2. Selection of the Sample--ked Deer

The sampling procedure in ked Deer was the same as the one in Grande Prairie, except that because of the greater population, it was desired to do less than a ten percent sample. The steps of the sampling procedure were as follows:

- a) The City of Red Deer was divided up into residential and non-residential areas, on the basis of information supplied by the city planning commission.
- b) The residential areas were then divided into 57 areas, as shown in Figure 5.2. In designating areas, it was desired that all areas be of approximately equal size, in terms of the probable number of residents, and that all areas more or less conform to natural boundaries.
- c) It was not possible to conduct interviews in all areas. The 57 areas were numbered consecutively, and 20 selected for interviewing. Selection was by randomly drawing numbers. The numbers of the areas selected are circled in Figure 5.2.

FIGURE 5-2

MAP OF THE CITY OF RED DEER



- d) Within the selected areas, the sampling procedure was identical to that carried out in Grande Prairie.

The selection procedure identified 153 dwelling units in which interviews were to be conducted.

D. Processing of the Testing Questionnaire

In the research study for the Division of Alcoholism, 418 interviews were completed. This was more than was necessary for testing the proposed hypotheses, and it was decided to use only a sample of the completed interviews. Initially, 100 interviews were selected at random from the 418 completed interviews. The questionnaires were numbered, and a table of random numbers used to make the selection.

The basic control variable in the study was drinking behaviour. The AQF index acts as a validity check for all of the other measures of attitude towards drinking alcoholic beverages. When the AQF index was used for random samples of populations of High Prairie and Peace River, it yielded approximately equal numbers of respondents in each of its six categories. It was therefore expected that similar results would be obtained from random samples of the populations of Red Deer and Grande Prairie. Analysis of the interviews, however, showed that this was not the case. The light drinker categories were over-represented, and the heavy drinker categories were very small. The measure of association to be used in data analysis, gamma, is somewhat affected by unequal marginals.

To correct this problem, a purposive sample was drawn from the completed interviews. The interviews were divided up into heavy drinkers, light drinkers and abstainers. There were only 25 heavy drinkers, and these were all included. An equal number of light drinkers and abstainers were randomly selected, making a total 75 interviews in the purposive sample.

Two over-lapping samples of interviews thus provided the raw data for testing the hypotheses: a random sample of 100 and a purposive sample of 75.

2. Scoring of the Attitude Items

The attitude items were broken down into the two original scales. For each scale, three scores were completed: a Likert score (in the same manner as the Likert scores in the Judgment Questionnaire); a mean endorsement score for the equal appearing intervals scale values (Total Group); and a mean endorsement score for the successive intervals scale values (Total Group).

The five attitude items of the Guttman scale (see next section) were scored 1 for a favourable attitude response and 0 for an unfavourable attitude response, making a range of possible scores from 0 to 5. Each respondent was thus assigned seven attitude scores.

3. Scoring of the AQF Index

The AQF index was scored in the manner described earlier for the drinking behaviour index of the Judgement Questionnaire.

For the 124 selected interviews all of the information from the Testing Questionnaire was coded and punched on IBM cards.

VII. Development of the Guttman Scale

A. Selection of the Scaling Technique

The scaling technique chosen was the Goodenough technique, described in Techniques of Attitude Scale Construction.¹⁹ It was selected in preference to the Cornell technique because it yields an accurate coefficient of reproducibility.

B. Selection of Items

Guttman scaling is not practical for large numbers of items. Therefore, of the 21 attitude items available on the Testing Questionnaire, only 8 were selected for scale analysis. The first criteria for the selection was that the items distribute themselves over the attitude continuum. The second was the subjective evaluation of the items by the interviewing team. Any items which were evaluated as ambiguous by the interviewers were not considered for Guttman scaling.

The proportions of favourable responses for each of the eight items are shown in Table 5.6. The items are arranged in ascending order in terms of both EAI and SI scale values. Theoretically, if the scale values measure a real underlying continuum of attitude, the proportions of favorable responses should also be in ascending order. It will be noted, however, that this is not the case for

items 36, 42, and 30. These items were thus eliminated from the Goodenough technique. (This problem will be discussed in greater detail in Chapter VI.)

TABLE 5.6. ITEMS SELECTED FOR GUTTMAN SCALING

Number ^a	Attitude Item ^b	% Favourable Responses
36	People who have been drunk should feel guilty.	34
42	Despite the fact that many millions do use alcoholic beverages, their use is degrading.	41
59	People would be better off if they did not drink.	17
81	All drinking should be as limited and as closely controlled as possible.	25
30	Drinking is an individual private concern	73
53	People tend to exaggerate the harm that social drinking does.	49
66	It is fun to have a few drinks occasionally.	77
14	Moderate social drinking is quite acceptable.	80

^aItem number corresponds to number in the Judgement Questionnaire.

^bItems are ranked by EAI and SI scale values.

C. Selection of Respondents

Completed interviews were available for 418 respondents. However, as pointed out by Edwards, 100 subjects are sufficient for scalogram analysis.²⁰ For pragmatic reasons, a sample of 100

respondents was drawn randomly from the total of 418 respondents, and the Goodenough technique applied to this sample.

D. The Guttman Scale

The Goodenough technique, done on a card sorter with 100 respondents, yielded the scale shown in Table 5.7. The coefficient of reproducibility was .88. The minimal marginal reproducibility was .732. Respondents were then scored for the six possible scale types.

TABLE 5.7. FINAL GUTTMAN SCALE

-
-
1. People would be better off if they did not drink.
 2. All drinking should be as limited and as closely controlled as possible.
 3. People tend to exaggerate the harm that social drinking does.
 4. It is fun to have a few drinks occasionally.
 5. Moderate social drinking is quite acceptable.
-
-

VIII. Summary of Data Collection

Data was collected by means of two questionnaires: a judgement questionnaire, concerned mainly with obtaining judgements for the calculation of EAI and SI scale values; and a Testing Questionnaire, concerned mainly with measuring attitudes by various means. The Judgement questionnaire yielded four sets of scale values. The Testing Questionnaire measured an individual's attitude

toward drinking alcoholic beverages in ten different ways. Seven attitude scale scores were calculated: (Two forms each of Likert, EAI and SI scales, plus a Guttman scale). In addition, attitude was assessed by means of a single item poll, a graphic self-rating question, and an index of drinking behaviour.

The development, administration, and processing of the two questionnaires has been described in detail, and will not be discussed again. The scale values, plus ten attitude measurements for each of 75 individuals, form the basic data for the testing of the hypotheses.

FOOTNOTES CHAPTER FIVE

¹Hinckley, E.D. "A Follow-up Study of the Influence of Individual Opinion On the Construction of an Attitude Scale." Journal of Abnormal and Social Psychology, 67 (1963), p. 291.

²Seashore, R.H. and Hevner, K. "A Time Saving Device for the Construction of Attitude Scales." Journal of Social Psychology, 4 (1933) pp. 366-372.

³The general opinion in attitude scaling literature is that the method used to obtain Thurstone judgement is not an important variable. The above method was selected on the basis of pragmatic concerns. It reduces the amount of time spent on the judgment phase of attitude scale construction both for the respondents, and for the researcher coding the questionnaires. Edwards, A. Techniques of Attitude Scale Construction. New York: Appleton-Century-Crofts, 1957, p. 97

⁴Edwards, A. Techniques of Attitude Scale Construction. New York: Appleton-Century-Crofts, 1957, p. 212.

⁵Taylor, James B. and Parker, Howard A. "Graphic Ratings and Attitude Measurement: A Comparison of Research Tactics." Journal of Applied Psychology, 48 (1964), p. 38.

⁶Straus, R. and Bacon, S.P. Drinking in College. New Haven: Yale University Press, 1953.

⁷Mulford, H.A. and Miller, D.E. "Drinking in Iowa II. The Extent of Drinking and Selected Sociocultural Categories." Quarterly Journal of Studies on Alcohol. 21 (1960), pp. 26-39.

⁸Maxwell, M.A. "A Quantity-Frequency Analysis of Drinking Behaviour in the State of Washington." Northwest Science, 32 (1958) pp. 57-57.

⁹Laskin, R. A Study of Drinking Behaviour, and Knowledge and Attitudes about Alcohol(ism), in Four Alberta Communities. Edmonton: The Alcoholism Foundation of Alberta, 1964. (Unpublished Type-written Research Report.)

¹⁰Nash, P. Development of a Quantity-Frequency Index for Measuring Drinking Behaviour in Alberta. Edmonton: The Alcoholism Foundation of Alberta, 1964. (Unpublished Typewritten Research Report.)

¹¹ Laskin, R. A Study of Drinking Behaviour and Knowledge and Attitudes About Alcohol(ism), in Four Alberta Communities. Edmonton: The Alcoholism Foundation of Alberta, 1965. (Unpublished Typewritten Research Report.)

¹² Kelley, H., Hovland, C., Schwartz, M., and Abelson, P. "The Influence of Judges Attitudes in Three Methods of Attitude Scaling." Journal of Social Psychology, 42 (1955), pp. 147-158.

¹³ Edwards, A. Techniques of Attitude Scale Construction. New York: Appleton-Century-Crofts, 1957, pp. 120-148.

¹⁴ Ibid., p. 129

¹⁵ Ibid., p. 90.

¹⁶ Ibid., pp. 82-119.

¹⁷ Eysenck, H.J. and Crown, S. "An Experimental Study in Opinion-Attitude Research." International Journal of Opinion and Attitude Research, 3 (1949), p. 72.

¹⁸ The 1961 Canadian census gives the populations as 8,352 and 19,612 respectively.

¹⁹ Edwards, A. Techniques of Attitude Scale Construction. New York: Appleton-Century-Crofts, 1957, pp. 184-188.

²⁰ Ibid., p. 179

CHAPTER VI

THE RESEARCH DESIGN FOR DATA ANALYSIS

I. Introduction

Unsolved problems in the field of attitude scaling involve three considerations: the examination of certain basic assumptions of attitude scaling techniques; the comparison of various techniques of attitude scale construction; and the comparison of attitude scaling techniques with other approaches to the problem of attitude measurement. Six hypotheses relevant to these unsolved problems were formulated in Chapter Four. These hypotheses were tested with two kinds of data: the scale values obtained from the Judgement Questionnaire, and the ten attitude measures obtained from the Testing Questionnaire. The Pearson Product Moment Correlation was employed in analyzing the scale values. This is a conventional measure and is relatively straight forward. The analysis of the attitude measures involved the cross-tabulation of every variable by every other variable. The degree of association between the variables was assessed by gamma, and tested for significance.¹ Because gamma is a relatively new measure of association, and because it is relevant to almost all of the hypotheses, it is pertinent to discuss it prior to a discussion of the hypotheses themselves.

II. Gamma

A. Selection of the Statistic

The data analysis required a measure of association. Gamma² was selected for several specific reasons.

1. Gamma was designed to be used on quasi-variables; that is, variables which have an intrinsic order, but are not continuous, and have neither a zero point nor equal intervals.³ At least six of the ten variables were quasi-variables.

2. "Gamma tells us how much more probable it is to get like than unlike orders in two classifications, when two individuals are chosen at random from the population."⁴ In other words, it shows how well the direction of difference on one variable can be predicted from knowledge of the direction of difference on the other variable. For the problem at hand, it affords a direct comparison of how different techniques order individuals in terms of their attitude towards drinking alcoholic beverages.

3. The sampling distributions for all values of gamma are not known. However, for the special case where gamma equals zero, the sampling distribution of gamma has been determined. Thus, we can determine at what level of probability a gamma of a given value could have been expected on the basis of chance alone.

B. Properties of Gamma

The gamma statistic has certain properties which must be considered in its application and interpretation.

1. Gamma has a possible range from -1 to +1. No one has clearly specified exactly how it is to be interpreted. Zelditch, for example, simply states that: "If you have a value close to 1, you have a high positive association and if you have -1 you have a high negative association."⁵ The problem is that, because the sampling distribution of gamma is not known except for the case where gamma equals zero, gammas can be compared across tables but there is no way of knowing how much difference in the absolute value of gamma makes a substantive difference. We know that a gamma of .90 is much greater than a gamma of .20, but we cannot say how much greater. Throughout this thesis, the only arbitrary decision made about the interpretation of gamma is to say that differences in gamma of less than .05 are probably not substantial for practical purposes.

2. Gamma is +1 if the population is concentrated in the upper-left to lower-right diagonal of the cross-classification table and -1 if the population is concentrated in the lower-left to upper-right diagonal of the cross-classification table.⁶

3. "Gamma is indeterminate if the population is concentrated in a single row or column of the cross-classification table."⁷

4. Gamma is somewhat affected by the marginals. Ideally, for one variable, the population should be approximately evenly distributed over all of the classes.

C. Formulation of Classes

Any measure of association is directly affected by the way in which variables are broken down into classes. Decisions as to how this should be done are always somewhat arbitrary. Ideally, it is desirable that, when gamma is used, one set of marginals be adjusted so that they are approximately equal. Categories may often be grouped so that the marginals are about equal. In spite of this, Goodman and Kruskal point out that:

We feel...that it is in fact desirable that a measure of association reflect the classes are defined for the data... That the definition of the classes can affect the degree of association naturally means that careful attention should be given to the class definitions in the light of the expected use of the final conclusions.⁸

In the analysis of the data, the first consideration in breaking the variables down into categories was that the categories be logically meaningful. The second consideration was, that as much as possible, the population be approximately evenly distributed over the categories.⁹ The categories for the ten variables are given in Table 6.1. The cross-tabulations of the ten variables, and the calculation of gammas on the resulting tables, provides the basic relevant data for testing the last five hypotheses.

All of this information is presented in Table 6.2.

TABLE 6.1. FORMULATION OF CLASSES FOR TEN VARIABLES

Variable Number	Variable Name	Categories
One	Single Item	Six response categories from very unfavourable to very favourable
Two & Five	Likert Scales I and II	Scores 11-22 (Very Unfavourable) Scores 23-33 (Somewhat Unfavourable) Scores 34-44 (Somewhat Favourable) Scores 45-66 (Very Favorable)
Three & Six	SI Scales	Scores 0.75 to 1.50 (Very Unfavorable) Scores 1.51 to 1.75 (Somewhat Unfavorable) Scores 1.76 to 2.50 (Somewhat Favorable) Scores 2.51 to 3.25 (Very Favorable)
Four & Seven	EAI Scales	Scores 0.00 to 3.00 (Very Unfavorable) Scores 3.01 to 5.00 (Somewhat Unfavorable) Scores 5.01 to 6.00 (Somewhat Favorable) Scores 6.00 to 9.99 (Very Favorable) ^a
Eight	AQF Scale	Score 0 (Abstainer) Scores 1, 2, & 3 (Light Drinker) Scores 4 & 5 (Heavy Drinker) ^b
Nine	Self-Rating	For the sake of comparability, categories correspond to EAI scale categories.
Ten	Guttman Scale	Six response categories for six possible scale types, from Very Unfavourable (score of 0) to Very Favorable (score of 5)

^aAn eleventh point Thurstone Continuum was used. However, in the sample there were no respondents with a score greater than 9.99.

^bBecause drinking behaviour is a very important variable the sample was selected so that there were exactly equal numbers of respondents in each of the three categories.

TABLE 6.2. GAMMA VALUES^a FOR CROSS-TABULATIONS^b OF TEN VARIABLES^c

	1	2	3	4	5	6	7	8	9	10
1										
2	.900									
3	.884	.984								
4	.908	.995	.992							
5	.931	.923	.821	.870						
6	.885	.899	.905	.923	.944					
7	.839	.876	.842	.858	.972	.987				
8	.637	.456*	.772	.494* (.294)	.676	.466*				
9	.476	(.238)	(.615)	(.370)	(.252)	(.537)	(.319)	.630		
10	.910	.869	.847	.883	.852	.871	.867	.501* (.305)		

^aAll gamma values are significant at the .001 level (Z value of greater than 3.09) unless otherwise marked. Gamma values marked * are significant at the .05 level. Gamma values in brackets are not significant at the .05 level.

^bCross-tabulations were done on the 75 purposively selected respondents.

^cThe names of the variables are:

One-----Single Item Poll
 Two-----Likert Scale Form One
 Three---SI Scale Form One
 Four-----EAI Scale Form One
 Five-----Likert Scale Form Two
 Six-----SI Scale Form Two
 Seven---EAI Scale Form Two
 Eight---AQF Index of Drinking Behaviour
 Nine-----Graphic Self-rating
 Ten-----Guttman Scale

III. Hypotheses Concerning Basic Assumptions

A. Hypothesis One

Hypothesis One stated that: Thurstone-type attitude judgements will not be affected by the attitudes of the judges.

In order to test Hypothesis One, it was necessary to examine the influence of the judges' attitudes while holding all other factors constant. In Chapter Three, the possible variables influencing the judgment methods of scale construction were outlined. The three variables that pertain to the calculation of scale values are:

1. the sample of items selected from the total possible universe of attitude items;
2. the judging of these items, which is affected by
 - a) the number of judges used
 - b) the characteristics of the judges
 - c) the methods of obtaining the judgements;
3. the method of processing the judgements;

The procedure for obtaining judgements of items was outlined in detail in Chapter Five. Briefly, three setps were involved. The judging Questionnaire was administered to a purposive sample, two groups of twenty-one judges were selected on the basis of their attitudes towards the drinking of alcoholic beverages; Group A, with very unfavourable attitudes; and Group B with very favourable attitudes. Scale values for each item were then

calculated independently on the basis of the judgements of each group.

The use of the same questionnaire for both Group A and Group B held constant the initial sample of items and the method of obtaining the judgements. Both groups were the same size, thus controlling for possible variation due to the number of judges used. The processing of the questionnaires and the calculation of scale values were identical for both groups.

The only characteristics of the judges which were of interest were their attitudes towards drinking alcoholic beverages. Theoretically, the judging group can be legitimately composed of any literate persons, as long as they are members of the general culture where the resulting attitude scale will be used. To insure that these criteria were met, judges were selected from the general public, as well as from academic circles. They were separated into two extreme groups on the basis of three criteria: an attitude index, a self-rating question, and the AQF scale. (See pages 91 to 92). To eliminate any ambiguity, any individuals whose scores on these three indices were inconsistent were eliminated from the judging groups.

1. Sub-hypothesis One A

Sub-hypothesis One A stated that: for the method of EAI, the scale value of the attitude statements will not be affected by the attitudes of the judges.

The scale values for items, calculated on the basis of judgements by Group A and by Group B, are given in Table 6.3. The relationship between the two sets of scale values is shown in Figure 6.1. A Person Product Moment correlation for the two sets of scale values was $r = .981$. This means that 96% of the variation in one set of scale values can be explained by variation in the other. On the basis of the very high positive correlation between the two sets of scale values, Sub-hypothesis One A was accepted.

2. Sub-hypothesis One B

Sub-hypothesis One B stated that: for the method of SI, the scale values of the attitude statements will not be affected by the attitudes of the judges.

There is evidence in the literature that, in the method of SI the attitudes of the judges are less apt to influence the scale values than in the method of EAI.¹⁰ The attitudes of the judges were shown in Sub-hypothesis One A not to be an important factor even for the method of EAI. It can therefore be logically concluded that they will not be an important factor for the method of successive intervals.¹¹ Sub-hypothesis One B was thus accepted on logical grounds.

3. Summary

Analysis of the data indicated that Thurstone attitude judgements were not affected by the attitudes of the judges. Hypothesis One was accepted.

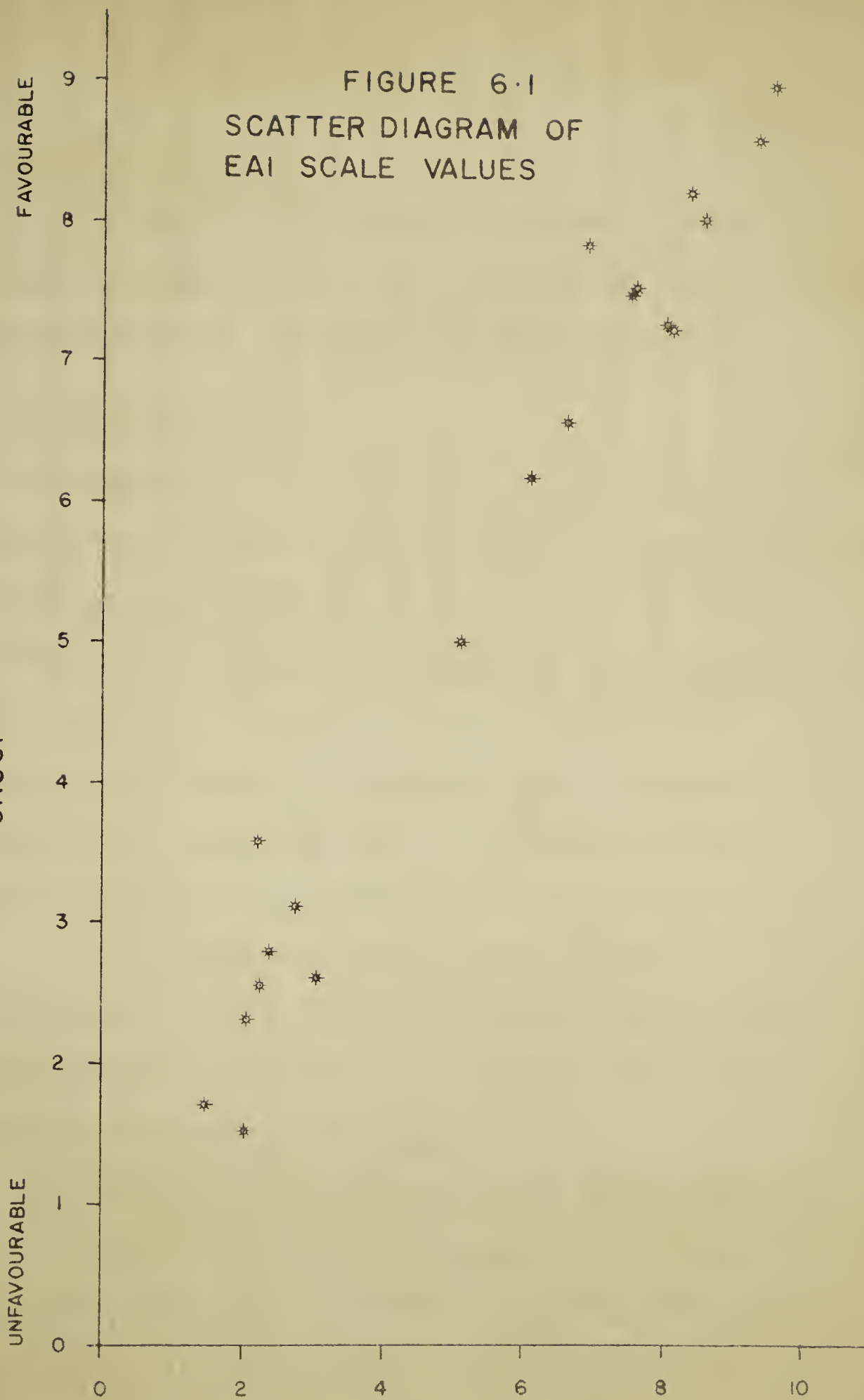
TABLE 6.3. SCALE VALUES FOR TWENTY-ONE ATTITUDE ITEMS,^a CALCULATED FOUR DIFFERENT WAYS

Item Number	EAI Scale Value Group A	EAI Scale Value Group B	EAI Scale Value Total Group	SI Scale Value Total Group
33	1.560	2.015	1.803	.814
23	1.712	1.461	1.564	.828
31	2.605	2.208	2.375	1.002
36	2.333	2.052	2.220	1.017
42	2.791	2.375	2.595	1.208
106	2.642	3.086	2.976	1.263
59	3.131	2.791	2.928	1.353
81	3.583	2.208	2.976	1.407
88	5.026	5.136	5.100	1.686
91	6.197	6.104	6.151	1.940
1	7.868	6.868	7.357	2.039
87	6.201	6.552	6.334	2.139
30	6.583	6.605	6.690	2.237
40	7.315	8.000	7.209	2.331
73	7.568	7.568	7.568	2.375
35	7.343	8.015	7.813	2.554
53	7.552	7.552	7.568	2.592
115	8.285	8.313	8.362	2.743
66	8.078	8.568	8.431	2.782
15	9.375	8.583	9.000	2.906
14	8.958	9.560	9.307	3.009

^aItems are from the SI scales in the Testing Questionnaire.

^bItem number corresponds to number in Testing Questionnaire.
Items are in rank order by SI scale values.

SCALE VALUES FOR UNFAVOURABLE JUDGES
GROUP "A"



UNFAVOURABLE FAVOURABLE
SCALE VALUES FOR FAVOURABLE JUDGES
GROUP "B"

IV. Hypothesis Comparing Scaling Techniques

A. Hypothesis Two

Hypothesis Two stated that: The methods of EAI and SI will produce comparable scales. This hypothesis is broken down into four sub-hypotheses, which are considered separately.

1. Sub-hypothesis Two A

Sub-hypothesis Two A stated that: other things being held constant, the position of attitude items on the attitude continuum will be essentially the same for both methods.

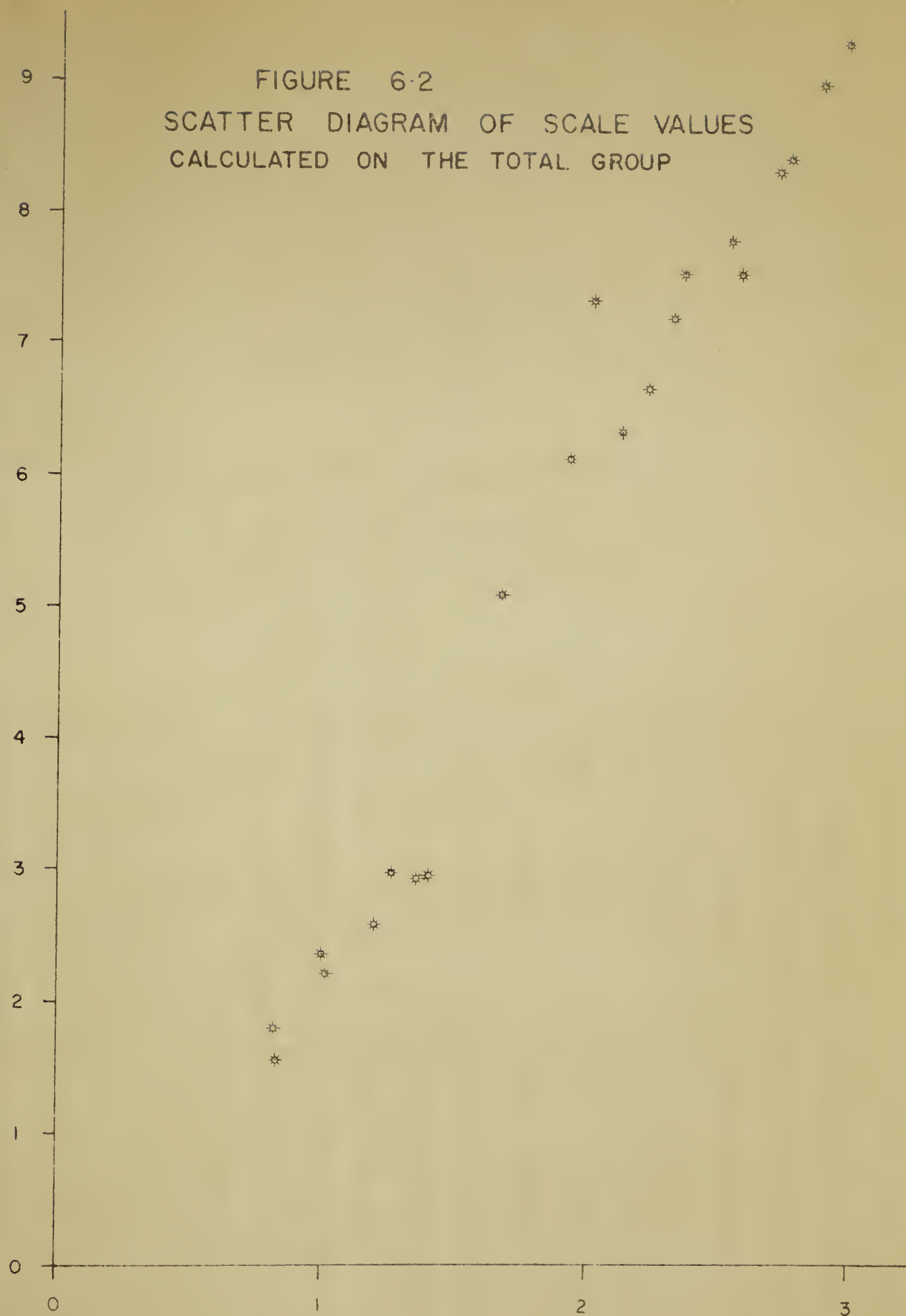
The possible factors which might affect the scale values of items subjected to judgement methods of attitude scaling were outlined in the discussion of Hypothesis One. (See page 113) All of these factors, except the method of processing judgements, were held constant for the comparison of the EAI and SI methods.

The total group of judges (42) were used for the calculation of both values. The SI scale values were calculated first, and two equivalent scales of 11 items each were selected. EAI scale values were then calculated for these items.

The resulting scale values are given in Table 6.3. A scatter diagram showing the relationship of the two sets of values is shown in Figure 6.2. The Pearson Product Moment correlation of the two sets of values is .9898. On the basis of this very strong correlation, Sub-hypothesis Two A was accepted.

EQUAL APPEARING INTERVALS SCALE VALUES

FIGURE 6.2
SCATTER DIAGRAM OF SCALE VALUES
CALCULATED ON THE TOTAL GROUP



SUCCESSIVE INTERVALS SCALE VALUES

2. Sub-hypothesis Two B

Sub-hypothesis Two B stated that: The measurement of attitudes will be equally reliable by either method, as measured by equivalent from reliabilities.

The gamma ¹² showing the relationship between the two forms of the EAI scale was .858, and the equivalent gamma for the SI forms was .095.

Because both gammas were high, and statistically significant, both the EAI and the SI scales were considered to be reliable. The SI scales were slightly more reliable, but the difference in the gamma units (.047) was so small that the two scales were considered to be equally reliable, for all practical purposes. Sub-hypothesis Two B was thus accepted.

3. Sub-hypothesis Two C

Sub-hypothesis Two C stated that: other things being held constant, the ordering of respondents on the attitude continuum will be essentially the same for both methods.

The gammas for possible combinations of scales were as follows:

EAI Scale One and SI Scale One -- .992

EAI Scale One and SI Scale Two -- .923

EAI Scale Two and SI Scale One -- .842

EAI Scale Two and SI Scale Two -- .987

The gammas indicated a high, positive and statistically

significant relationship among the EAI and SI scales. Sub-hypothesis Two C was accepted. It must be pointed out, however, that one of the cross-tabulations (EAI Scale One and SI Scale Two) indicated a slightly lower degree of association. While the ordering of respondents appeared to be 'essentially' the same, it was not identical.

4. Sub-hypothesis Two D

Sub-hypothesis Two D stated that: the measurement of attitude will be equally valid by either method, as measured by comparison with overt behaviour.

The association of scores on the four scales and drinking behaviour (as measured by the AQF index) was shown by gamma to be as follows:

EAI Scale One -- .494 (Significant at the .05 level)

EAI Scale Two -- .466 (Significant at the .05 level)

SI Scale One -- .722

SI Scale Two -- .676

The SI scales consistently had a higher validity than the EAI scales. The average difference for equivalent forms of the two scales was .210 gamma units. On the basis of this evidence, Sub-hypothesis Two D was rejected. SI scales appeared to have greater validity than EAI scales.

5. Summary

Hypothesis Two was rejected. EAI and SI scales were very

similar, in that they yielded similar ordering of attitude items on the attitude continuum and similar ordering of respondents by mean scores. However, SI scales must be considered superior to EAI scales in that they were slightly more reliable (as measured by equivalent forms), and more valid (as measured by comparison with reported behaviour).

C. Hypothesis Three

Hypothesis Three stated that: summation scoring methods (such as Likert) will yield essentially the same results as mean scoring methods (such as EAI and SI).

1. Sub-hypothesis Three A

Sub-hypothesis Three A stated that: Likert summation scores, and EAI and SI mean scores will be equally reliable, as measured by equivalent form reliabilities.

The gamma for the equivalent forms of the three kinds of scales were as follows:

Likert Form One and Form Two	--	.923
SI Form One and Form Two	--	.905
EAI Form One and Form Two	--	.858

The high, positive, and statistically significant gammas indicated that both types of scoring had high reliability. As was expected, the summation scores appeared to be the most reliable, followed by the SI and EAI scores. The differences in the gamma values were small. The data therefore did not clearly delimit

superiority in reliability of any technique, but merely indicated that Likert scaling tended to be more reliable than SI scaling, which tended to be more reliable than EAI scaling. Sub-hypothesis Three was rejected, but due to the generally high gammas for all techniques, this was done with caution.

2. Sub-hypothesis Three B

Sub-hypothesis Three B stated that: Likert summation scores and EAI and SI intervals mean scores will be equally valid, as measured by comparisons with reported behaviour.

The degree of association between the scales and the respondent's reported drinking behaviour, as measured by the AQF index, were as follows:

Likert Form One	--	.456 (Significant at the .05 level)
Likert Form Two	--	.294 (Not significant)
EAI Form One	--	.494 (Significant at the .05 level)
EAI Form Two	--	.466 (Significant at the .05 level)
SI Form One	--	.772
SI Form Two	--	.676

On the basis of the gamma values, the Likert scales appeared to have less validity than the judgement scales. This was particularly true for the method of SI. Forms One and Two of the SI scales varied .316 and .382 gamma units, respectively, from the comparable Likert forms. Sub-hypothesis Three B was thus rejected. Likert scores apparently have less validity than SI scores.

3. Summary

Hypothesis Three was rejected. Likert scores appeared to be more reliable than the SI scores of the EAI scores, but to have less validity.

D. Hypothesis Four

Hypothesis Four stated that: scalogram methods will yield essentially the same results as other attitude scaling methods.¹³

1. Sub-hypothesis Four A

Sub-hypothesis Four A stated that: Guttman scales and judgement scales (EAI and SI) will have the same ordering of attitude items.

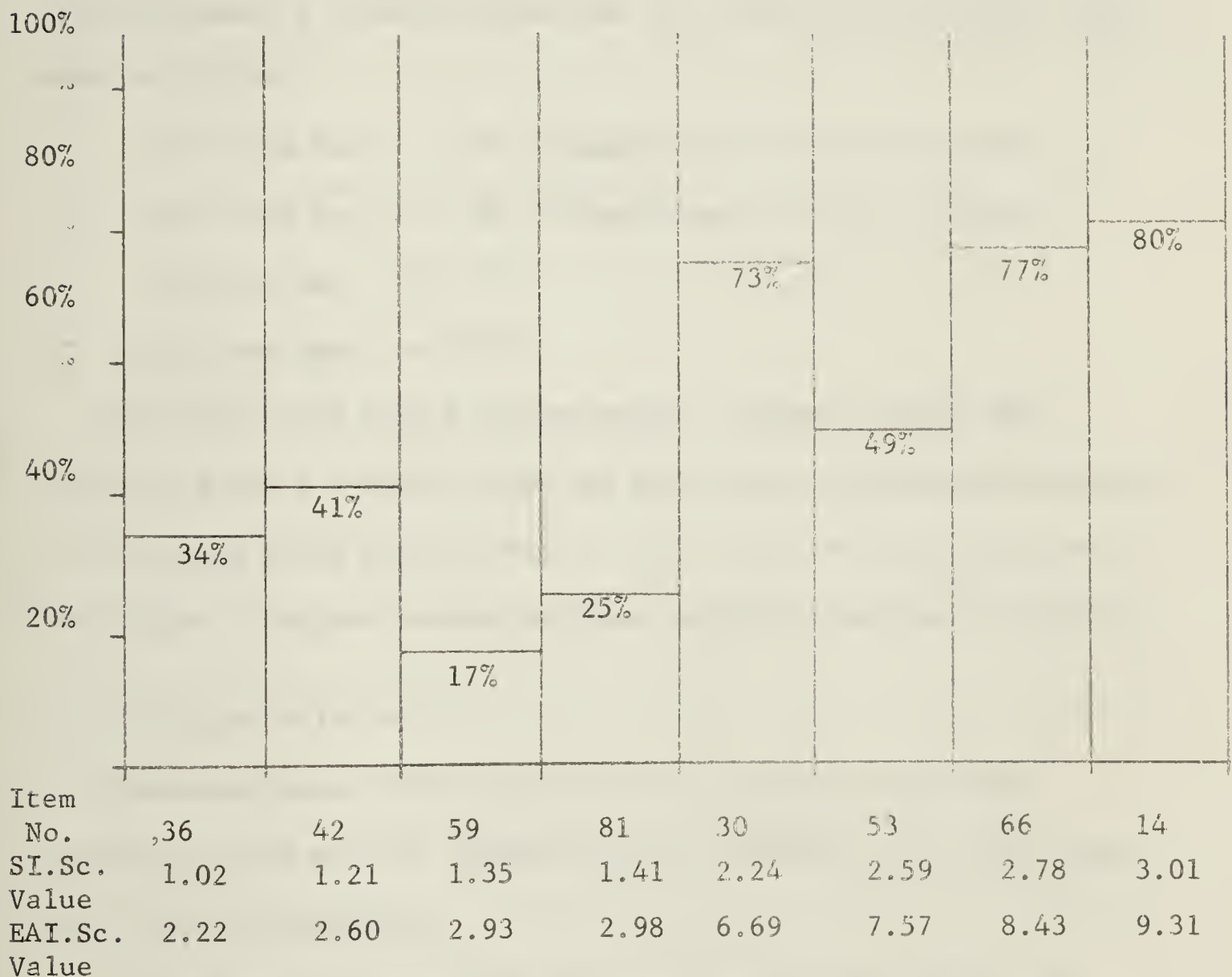
The eight items selected for Guttman scaling were ordered by their EAI and SI scale values. The proportion of favourable responses to each item is shown in Figure 6.3. Theoretically, as the scale value of an item increases, the proportion of favourable responses to it should also increase. As shown in Figure 6.3, this is not the case.¹⁴

Sub-hypothesis Four A was thus rejected. Guttman analysis established the unidimensionality of five of the eight items. The responses to the remaining three items cast doubt on the unidimensionality of scales developed by judgement processes.¹⁵

2. Sub-hypothesis Four B

Sub-hypothesis Four B stated that: Guttman scales and

FIGURE 6.3. PERCENTAGE^a OF FAVOURABLE^b RESPONSES TO GUTTMAN ITEMS



^aPercentages were calculated from 100 randomly selected respondents, and were based on a dichotomizing of responses of all agree answers and all disagree answers.

^bFavourable responses are those indicating a favourable attitude to the subject being considered. Because of the nature of the items used, the most favourable response could be an agree or a disagree.

judgement scales will be equally valid, as measured by comparisons with reported behaviour. The gamma indicating the degree of association between Guttman scores and drinking behaviour scores is .501 (significant at the .05 level).

The degree of association between the judgement scales and the individual's drinking behaviour (as measured by the AQF index) were as follows:

EAI Form One -- .494 (Significant at the .05 level)

EAI Form Two -- .466 (Significant at the .05 level)

SI Form One -- .772

SI Form Two -- .676

Sub-hypothesis Four B was rejected. Guttman scales had slightly greater validity than the EAI scales, but the differences in the gamma units were so small (.007, .035) as to be practically negligible. Guttman scales had less validity than the SI scales.

3. Sub-hypothesis Four C

Sub-hypothesis Four C stated that: Guttman scales and response scales will be equally valid, as measured by comparisons with reported behaviour.

The degrees of association between the Likert scales and the individual's drinking behaviour (as measured by the AQF Index) were as follows:

Likert Form One -- .456 (Significant at the .05 level)

Likert Form Two -- .294 (Not Significant)

The Guttman scales have greater validity than the Likert scales. Sub-hypothesis Four C was rejected.

4. Summary

Hypothesis Four was rejected. Guttman scales do not necessarily yield the same ordering of items as judgement method scales. They have slightly higher validity than all scaling methods except SI.

V. Hypotheses Comparing Scaling with Other Approaches to Attitude Measurement

A. Hypothesis Five

Hypothesis Five stated that: graphic self-rating methods will yield essentially the same results as attitude scaling methods.

1. Sub-hypothesis Five A

Sub-hypothesis Five A stated that: graphic self-rating methods will yield the same ordering of respondents as attitude scaling methods.

There were seven attitude scaling variables. The gamma values for the degree of association between these seven variables and the self-rating measure were as follows:

Likert Form One	--	.238	(Not significant)
Likert Form Two	--	.252	(Not significant)
EAI Form One	--	.370	(Not significant)
EAI Form Two	--	.319	(Not significant)

SI Form One -- .615 (Not significant)

SI Form Two -- .537 (Not significant)

Guttman Scale-- .305 (Not significant)

None of the gamma values relating self-ratings to attitude scales were significant. There is an indication that they are more highly related to the SI scales than to the EAI scales, and more highly related to the EAI scales than to the Likert scales. The results are in the expected direction, but are not statistically significant at the .05 level.

2. Sub-hypothesis Five B

Sub-hypothesis Five B stated that: graphic self-rating methods and attitude scaling methods will be equally valid, as measured by comparisons with reported behaviour.

The gamma indicating the degree of association between self-rating scores and drinking behaviour scores is .630. Cross-tabulations of the AQF index and the attitude scales yielded the following gammas:

Likert Form One -- .456 (Significant at the .05 level)

Likert Form Two -- .294 (Not significant)

EAI Form One -- .494 (Significant at the .05 level)

EAI Form Two -- .466 (Significant at the .05 level)

SI Form One -- .772

Si Form Two -- .676

Guttman Scale -- .501 (Significant at the .05 level)

The gammas indicate that the graphic self-rating method had

higher validity than either the Likert, EAI or Guttman scaling methods (as measured by comparisons with reported behaviour), and had nearly as high validity as the SI scaling method. Sub-hypothesis Five B was thus rejected.

3. Summary

Hypothesis Five was rejected. Graphic self-rating methods were not significantly associated with the attitude scaling methods. They had greater validity than the EAI scales, but less validity than the SI scales.

B. Hypothesis Six

Hypothesis Six stated that: a single item poll will yield essentially the same results as attitude scaling methods and graphic self-rating methods.

1. Sub-hypothesis Six A

Sub-hypothesis Six A stated that: a single item poll will yield essentially the same ordering of respondents as attitude scaling methods.

There were seven attitude scaling variables. The gamma values for the degree of association between these seven variables and the single item poll were as follows:

Likert Form One -- .900

Likert Form Two -- .931

EAI Form One -- .908

EAI Form Two	--	.839
SI Form One	--	.884
SI Form Two	--	.885
Guttman Scale	--	.910 ¹⁶

The degree of association between the attitude scales and the single item is consistently high and significant. Sub-hypothesis Six A was accepted.

2. Sub-hypothesis Six B

Sub-hypothesis Six B states that: a single item poll will yield essentially the same ordering of respondents as graphic self-rating methods.

The gamma for the cross-tabulation of the single item poll and the self-rating question was .476. This indicates a significant positive relationship, but not a strong enough relationship to conclude that the two methods yield essentially the same ordering of respondents. At best, they yield a similar ordering of respondents. Sub-hypothesis Six B was therefore rejected.

3. Sub-hypothesis Six C

Sub-hypothesis Six C states that: a single item poll will yield as valid results as other measures of attitude, as measured by comparisons with reported behaviour.

The gamma indicating the degree of association between the single item poll and drinking behaviour scores is .637. Cross-tabulations of the AQF index and the other attitude measures yielded

the following gammas:

Likert Form One	--	.456 (Significant at the .05 level)
Likert Form Two	--	.249 (Not significant)
EAI Form One	--	.494 (Significant at the .05 level)
EAI Form Two	--	.466 (Significant at the .05 level)
SI Form One	--	.772
SI Form Two	--	.676
Guttman Scaling	--	.501 (Significant at the .05 level)
Self-rating	--	.630

The single item poll had greater validity than the Likert, EAI or Guttman scaling methods; a slightly greater validity than the graphic self-rating method (.046 gamma units); and nearly as high a validity as the SI scaling method (.013 gamma units). Sub-hypothesis Six C was thus rejected.

4. Summary

Hypothesis Six was rejected. The single item poll did not yield the same ordering of respondents as the attitude scaling methods. In terms of validity, it was apparently more valid than the Likert, EAI or Guttman scaling methods, slightly more valid than the graphic self-rating method and nearly as valid as the SI scaling method.

VI. Overview of Tested Hypotheses

An overview and summary of hypotheses, decisions, and comments is given in Table 6.4.

TABLE 6.4. REVIEW OF HYPOTHESES

Hypothesis	Decision	Comment
Ho: 1 Thurstone type attitude judgements will not be affected by the attitudes of the judges.	Accepted	
Ho: 2 The methods of EAI and SI will produce comparable scales.	Rejected	The methods are similar in terms of ordering of items on the attitude continuum and ordering of respondents. SI scales have a higher validity, and a slightly higher reliability.
Ho: 3 Summation scoring methods will yield essentially the same results as mean scoring methods.	Rejected	Likert scores have a higher reliability than SI scores or EAI scores but have somewhat less validity than the SI scores.
Ho: 4 Scalogram methods will yield essentially the same results as other attitude scaling methods.	Rejected	Guttman scales do not necessarily order items in the same way as judgement scales. They have slightly higher validity than all scaling methods except SI.
Ho: 5 Graphic self-rating methods will yield essentially the same results as attitude scaling methods.	Rejected	Graphic self-rating methods are not significantly associated with scaling methods. They have a slightly higher validity than all scaling methods except SI.
Ho: 6 A single item poll will yield essentially the same results as attitude scaling methods and graphic self-rating methods.	Rejected	A single item poll does not necessarily yield the same ordering of respondents as other methods. It has a slightly higher validity than all scaling methods except SI.

FOOTNOTES CHAPTER SIX

¹Two different statistics were used because of the differences in the levels of the data available. Green writes that: "The Guttman scale...is primarily an ordinal scale...We shall not be far amiss in treating the judgement scales as interval scales... (But this is) not so with the method of summated ratings..." Green, B.F. "Attitude Measurement." Handbook of Social Psychology. Edited by G. Lindzey. Reading, Mass.: Addison Wesley, 1954, p. 364. For the Guttman and the Likert Scales, therefore, it was necessary to use an ordinal statistic. For purposes of comparability, it was decided to use the same statistic throughout, except where only judgement scales were being compared.

²Gamma may be defined as: Probability of Concordance - Probability of Discordance / 1 - Probability of a tie. Concordance refers to like order of units on the two classifications, discordance refers to unlike order.

³Zelditch, Morris Jr. A Basic Course in Sociological Statistics. New York: Holt, Rinehart and Winston, 1959, p. 180.

⁴Goodman, R.L. and Kruskal, W.H. "Measures of Association for Cross Classifications." American Statistical Association Journal, 49 (1954), p. 749.

⁵Zelditch, Morris Jr. A Basic Course in Sociological Statistics. New York: Holt, Rinehart and Winston, 1959, p. 181.

⁶In the case of the 2 x 2 table, gamma is equal to Yule's Q, and is unity if any one cell is empty. Gamma is +1 in other special cases where a conflict of order is impossible. For example, if all of the population is concentrated in the cells on the extreme left and the bottom of a 3 x 3 table, gamma is +1 because a conflict of order is impossible. Gamma is also +1 when 'Complete curvilinear association' occurs, and cases are concentrated in the diagonal of a 3 x 3 (or larger) table, leaving the corner cells empty. Goodman, R.L. and Kruskal, W.J. "Measures of Association for Cross Classification." American Statistical Association Journal, 49 (1954), p. 750.

⁷Goodman, R.L. and Kruskal, W.I. "Measures of Association for Cross Classifications." American Statistical Association Journal, 49 (1954), p. 749.

⁸Ibid., P. 738.

⁹For some of the variables, the various categories did not contain equal or nearly equal proportions of the populations, and the categories could not logically be combined without destroying their meaning. To test the effect that this might have on gamma, cross-tabulations were done with Variable Eight (the AQF Drinking Index) and all other variables. In the first case, a sample of 75 was used in which the three categories (abstainers, light drinkers, heavy drinkers) were equally represented. (33.3%, 33.3%, 33.3%). In the second case, an overlapping sample of 124 was used, in which the three categories were not equally represented. (20.2%, 20.2%, 59.79%). For seven gammas, the average difference was about .10.

As a further check, cross-tabulations were done with Variable One (the single item poll) and all other variables. Two sets were done for the sample of 75. In the first case, the variable was broken down into six categories (with a category distribution of 4%, 21.3%, 2.7%, 8.0%, 57.3% and 6.7%). In the second case, the variable was dichotomized (with a category distribution of 23% and 77%). The second variable would still be affected by the marginal discrepancy but presumably to a lesser degree. When gammas were calculated, the average difference was about .08.

¹⁰Kelley, H.H., Hovland, C.C., Schwartz, M and Abelson, P. "The Influence of Judges Attitudes in Three Methods of Attitude Scaling." Journal of Social Psychology, 42 (1955), pp. 147-158.

¹¹This conclusion was also supported by the high positive correlation between EAI and SI scale values, demonstrated in Hypothesis Two. The relationship is shown in Figure 6.2. The Pearson Product Moment Correlation was .9898.

¹²All gammas referred to are significant at the .001 level, unless otherwise specified.

¹³Logically it would seem desirable to assess the comparative reliabilities of the judgement and Guttman scales. However, it is not feasible to compare them directly. The best that can be done is to assess the reliability of the Guttman scale by its CR, (in this case, CR = .88) and the reliability of the judgement scales by equivalent form reliabilities using gamma. (See sub-hypothesis Two B).

¹⁴Two precautions were taken at this point to insure the accuracy of Figure 6.3.

Firstly, the attitude items were dichotomized in three different ways, and the pattern of the proportions of favourable responses was essentially unchanged. Secondly, it seems possible that, if respondents did not understand the attitude items, the proportions of favourable responses might not scale as expected. To control for this possibility, 100 respondents, with at least Grade

Twelve Matriculation, were selected from the 418 respondents. The pattern of proportions of their favourable responses remained essentially unchanged.

¹⁵The item order of Guttman scales is often altered by chance fluctuations in the proportions of favourable responses from one sample to another. This is especially true when adjacent marginal frequencies are very close to the same value. In the example being considered, however, there were considerable discrepancies between some of the marginal frequencies. For example: Between items 81 and 30, and 30 and 53, there were differences of 48% and 24% respectively. (See Figure 6.3) Such large differences are not likely explained by chance variation alone.

¹⁶This value may be affected by the accidental inclusion of the single item poll question in the Guttman scale.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The centrality of the concept of attitude has led many researchers to try to measure it. The most popular approach has been that of attitude scaling. In the voluminous literature concerned with attitude scaling, three questions remain unsatisfactorily answered: Is confidence in attitude scaling justified? If so, is attitude scaling the best approach to the problem of attitude measurement? If scaling is valuable, which techniques of scale construction are best, under what conditions, by what criteria?

The present study attempted to answer these questions. Data was collected with two questionnaires: A Judging questionnaire which led to the development of attitude scales; and a Testing questionnaire, which assessed in ten different ways respondent's attitudes towards drinking alcoholic beverages. The data was used to test six specific hypotheses. The results of these hypotheses were presented in Chapter VI. Before these results can be expounded and interpreted, it is necessary to be cognizant of the limitations of the study.

I. Limitations of the Study

Interpretations of the findings are limited by several important restrictions. The major ones are as follows:

A. The Problem of Generalization

The goal of the study was to make statements about particular attitude techniques with regard to their efficacy for the measurement of attitudes in general. The available data, however, involved only one example of each attitude technique,¹ with regard to the attitude toward drinking of alcoholic beverages. Because each attitude technique was carefully developed, it was probably representative of its type. However, care is necessary in generalizing carte blanche from the specific example studied to comparable indices for all possible attitude universes.

B. Lack of Independent Development

In theory, the study supposedly compared attitude scales developed by different techniques. In practice, it was only able to compare different techniques for processing and scoring items selected by the SI method. It is unlikely that, if the scales had been developed independently from a common attitude matrix, the same set of attitude items would have been selected for each one. The reported inter-relationships of the scales may thus be spuriously high. There is no apparent way to avoid this problem. If different sets of items had been used in each scale, it would have been impossible to insure the exact comparability of the items. Any observed variation among the techniques could thus have been due to either real differences in the techniques, or to accidental differences in the items used.

Firstly, although the relationship of drinking and attitudes towards drinking is strongly positive, it is not perfect. All that can be concluded is that groups of people with unfavourable attitudes towards drinking will tend to drink less than groups with favourable attitudes.

Secondly, the validity of the AQF index itself is questionable. Drinking is somewhat socially undesirable, and some respondents might have been reluctant to give honest answers. Hopefully, good interviewing techniques and the assurance of anonymity helped to minimize the distortion. It is also possible that even the co-operative respondent was not able to accurately report his own behaviour.

A researcher cannot follow individuals around over a long period of time and actually observe their drinking behaviour. Even if the self-report question is somewhat inadequate, it is the best measure available.

E. The Problem of Reliability

The reliabilities of all attitude measurements could not be compared. For the conventional attitude scales, the assessment of reliability simply involved the construction and comparison of equivalent forms. For the Guttman Scale, reliability was determined by the CR. However, this measure was not really comparable with judgement scale reliabilities. For the single item poll, the graphic self-rating scale, and the AQF index, reliability could not be

determined. The only way of assessing reliability for these measures would have been in a test-retest situation, and this was beyond the scope of the study.

II. Conclusions

In spite of the foregoing limitations, the data seems to support the following conclusions.

A. The Effect of the Judge's Attitudes

Hypothesis One indicated that, at least for attitudes regarding the use of alcohol, the attitudes of the judging group do not have any effect on the scale values of Thurstone type attitude items.

This conclusion is an apparent contradiction to the conclusions of some recent studies, which were concerned with the ability of prejudiced and non-prejudiced judges to objectively judge the favorableness or unfavourableness of attitude statements concerning the Negro.^{2,3} A consideration of the dimensions of attitudes, however, partly resolves the apparent contradiction. Attitudes towards drinking alcoholic beverages differ from attitudes towards the Negro in two important ways. Firstly, attitudes towards drinking are not apt to have the centrality and emotional importance for the individual that prejudicial attitudes have.⁴ Secondly, unfavorable attitudes towards drinking are not socially unacceptable, as are prejudicial attitudes, and thus are more open and freely expressed.

The conclusion from Hypothesis One is thus slightly modified. The data indicates that, at least for relatively unemotional and socially acceptable attitude universes, the attitudes of the judging group do not affect the scale values of statements. The data does not necessarily contradict the findings of other authors, such as Hovland and Sherif, but does imply the operation of another dimension. The attitudes of the judges may affect their judgements regarding some kinds of attitudes, but be a negligible factor in the judgement of other kinds.

B. Comparisons of Methods of Attitude Scaling

Hypotheses Two, Three and Four indicated that the particular technique of attitude scaling employed did make a difference in the results obtained. In terms of both reliability and validity, the best technique appeared to be the method of SI.⁵

The comparison of item order in the judgement and Guttman scales revealed the surprising fact that a carefully developed judgement scale may be reliable (as measured by equivalent forms) and valid (as measured by comparisons with reported behaviour) and still may not be unidimensional. Although the data yielded only one example of a judgement scale that was not unidimensional by Guttman criteria, that example was found to hold true under a variety of conditions, and was not likely the result of mere chance fluctuations.⁶

Although the SI scale was shown to lack unidimensionality,

it had a higher validity than the Guttman scale.⁷ Therefore, we cannot conclude that because a scale is not unidimensional, it tends to be invalid. On the contrary, it seems possible that the attitudes which result in a person drinking or not drinking are complex, and that an accurate and valid picture of these attitudes may, therefore, indicate the operation of more than one dimension.

C. Comparisons of Scaling with Other Methods

The data involving the graphic self-rating method presented an interesting contradiction. On the one hand, the graphic self-rating method was not significantly related to any of the scaling methods, in terms of ordering of respondents. On the other hand, the graphic self-rating method had a higher validity,⁸ than any of the scaling methods,⁹ except the SI method, as measured by comparisons with reported behaviour.

Graphic self-ratings measure a person's self-perception of his attitude, rather than his 'real' latent attitude. Apparently, this dimension is more closely related to what people actually do than the dimension assessed by most attitude scales.

It is unfortunate that the reliability of the self-rating method could be not assessed. If the reliability of the self-rating method could be shown to be comparable to the reliabilities of other methods, it would be a most promising tool for attitude measurement. It has an apparently high validity and many pragmatic advantages.

The single item poll had high positive relationship with all of the scaling methods, and a significant relationship with the self-rating method, as measured by the ordering of respondents. It had almost as high validity as the SI method, as measured by comparisons with overt behaviour. Unfortunately, as for the graphic self-rating method, its reliability could not be determined. If a single item can be assumed to be reasonably reliable, then the data indicated that a single item poll, properly selected, may be nearly as valuable as attitude scales, and may have many pragmatic advantages.

IV. Implications

The data presented has several general implications for the field of attitude scaling.

Firstly, it appears that we are in fact justified in placing confidence in scaling techniques. Generally, the various attitude scales were reliable, were highly related to each other, and were significantly related to reported behaviour.

Secondly, of all of the attitude scaling techniques used, the most valuable one appears to be the method of SI. It consistently compared favorably with other scaling methods.

Thirdly, the data indicates that, contrary to the general consensus of opinion, unidimensionality may not be the final criterion for the evaluation of attitude measures.

The data suggested that SI scales, graphic self-rating scales, and single item polls all tended to have a higher validity than other types of attitude scales, as measured by comparisons with reported behaviour. This relationship persisted in spite of the fact that the SI scales were shown not to achieve unidimensionality.

Unidimensional scales, such as those produced by scalogram analysis, define attitude in a very narrow way. While this may be accurate to a point, the fact remains that a single, very specific attitude is seldom the only determinant of an individual's behaviour with regard to a certain object. It is possible that very complex attitudes, with a great deal of centrality for the individual, (such as attitudes towards religion) are over-simplified when reduced to one very fine dimension. Because this one dimension is only part of a complex matrix of attitudes, it may only be partly influential in determining the individual's behaviour. Its measurement could thus only be partly valid, as measured by comparisons with behaviour.

Fourthly, there are indications that, although attitude scales can achieve high validity and reliability, they may be more complex and elaborate than is necessary. It seems probably that, in many cases, a properly selected single item, or graphic self-rating scale could yield almost as good results as a sophisticated attitude scale, and involve much less time and effort in development, administration, scoring, and interpretation.

FOOTNOTES CHAPTER SEVEN

¹For the EAI, SI and Likert scales, equivalent forms were constructed and two examples were available.

²Hovland, C.D. and Sherif, M. "Judgemental Phenomena and Scales of Attitude Measurement: Item Displacement in Thurstone Scales." Journal of Abnormal and Social Psychology, 47 (1952), pp. 822-832.

³Kelley, H.H., Hovland, C.F., Schwartz, M. and Abelson, P.R. "The Influence of Judges Attitudes in Three Methods of Attitude Scaling." Journal of Social Psychology, 42 (1955), pp. 147-158.

⁴Some of the unfavourable judges used were members of the First Mennonite Church, a strongly temperate group. It is possible that, for this group, attitudes towards drinking were of central importance.

⁵The disadvantage with the method of SI was that, compared to other methods, a great deal of work was involved in the construction of the scales.

⁶The response categories were dichotomized in every possible way, and the results were essentially unchanged. The proportion of favourable responses were calculated on a sample of the total group of respondents, and on a sample of only the more educated respondents, and the results were unchanged. The differences between the marginal frequencies of adjacent items were quite large. The differences in the scale values of the items were quite large, except in one case of two closely adjacent items which scaled. For example: the eight items represent seven different increments on the SI continuum.

⁷For the SI scales, the gamma coefficients indicating the degree of association between reported behaviour and scale scores were .772 and .676. The comparable value for the Guttman scale was .501 (significant at the .05 level).

⁸It is possible that the apparently high validity of the self-rating method is somewhat spurious. Both the self-rating question and the AQF index questions pose similar problems for the respondent. One asks, in essence; 'How much do you like drinking,' the other asks: 'How much do you drink.' The subjective processes involved in the respondent's answer may be very similar for both questions. Comparisons of the two questions may be, to some extent, comparisons of two different forms of the same question.

⁹Because of the difficulty in interpreting small differences in the size of gamma units, it was not possible to say how much more valid graphic self-ratings were than scale scores.

¹⁰This implication of the data must be qualified in two ways. Firstly, it assumes that the reliability of non-scaling methods is satisfactory and this could not be established in this study. Secondly, the more socially undesirable the attitude being measured is, the greater the probability that direct methods such as these will not adequately assess 'bad' attitudes.

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APPENDIX A

JUDGEMENT QUESTIONNAIRE USED IN RESEARCH

Below are statements which relate to the DRINKING OF ALCOHOLIC BEVERAGES.

These statements may represent unfavourable, neutral, or favourable attitudes towards the drinking of alcoholic beverages. We would like you to judge the degree of unfavourableness or favourableness of each statement.

The range of attitudes from very unfavourable toward the drinking of alcoholic beverages to very favourable toward drinking alcoholic beverages has been broken into eleven categories, as shown below.

1	2	3	4	5	6	7	8	9	10	11
very					neutral					very
unfavourable										favourable

Please indicate in the blank to the right of each attitude statement the number of the category to which you think that statement belongs.

For example, if you judge that a statement is very unfavourable towards the drinking of alcoholic beverages, you could mark the number "1" in the space to the right of that statement. If you judge a statement to be somewhat unfavourable, but not very, you could mark it "2" or "3" or "4" or "5", depending upon your judgement. Very favourable statements should be marked "11", and somewhat favourable ones "7" or "8" or "9" or "10". If a statement appears to you to be entirely neutral, you could mark the number "6".

Please note that we are NOT concerned with how you personally feel about the drinking of alcoholic beverages, but only want your considered judgement of the nature of each attitude statement.

	<u>Judgement</u>
1. It is up to the individual whether he drinks or not.	_____
2. Drinking, in general, is desirable.	_____
3. An abstainer cannot really enjoy life.	_____

4. Social drinking adds to our relaxation and pleasure. _____
5. A person who drinks shows that he is morally weak. _____
6. Only a very unscrupulous person would give liquor to a youngster. _____
7. Alcohol is almost always a source, or a potential source, of unhappiness. _____
8. The "evils of alcbhol" come not from the use of alcohol but from its abuse. _____
9. It is old-fashioned to simply condemn drinking. _____
10. An abstainer cannot really get the most out of life. _____
11. Drinking is an enjoyable pastime. _____
12. An individual with no emotional problems has no need for alcohol. _____
13. Alcohol is to be condemned, not praised. _____
14. Moderate social drinking is quite acceptable. _____
15. A few drinks are quite relaxing after a hard day's work. _____
16. Moderate social drinking should not be regarded as either good or evil. _____
17. People who do not drink miss out on one of the joys of life. _____
18. Drinking is one of man's greatest pleasures. _____
19. To drink is to degrade and to debase one's own body. _____
20. In an ideal society the drinking of alcoholic beverages would not be allowed. _____
21. Drinking is OK as a business courtesy. _____

22. Drinking is to be condemned. _____
23. A person who drinks shows selfish unconcern for the welfare of others. _____
24. Generally speaking teetotalers are better people than drinkers. _____
25. If people must drink, they should at least refrain from drinking in a public place. _____
26. If people must drink, they should never drink in the presence of children. _____
27. In many ways, alcohol really is "The Gift of the Gods." _____
28. Prohibition is the hope of our country. _____
29. The people of this country would be better off if they did not drink. _____
30. Drinking is an individual, private concern. _____
31. It is difficult to respect someone who is a drinker. _____
32. Everything possible should be done to discourage and eliminate social drinking. _____
33. Drinking is a very undesirable kind of behaviour. _____
34. People are happiest when they are tight. _____
35. It is reasonable to drink if one enjoys the taste of alcoholic beverages. _____
36. People who have been drunk should feel guilty. _____
37. Drinking is desirable in that it creates gaiety. _____
38. Drinking in any form is a vice. _____
39. Moderate social drinking is desirable behaviour. _____
40. Drinking itself is desirable, although it may have some undesirable consequences. _____

- 41. Moderate use of alcohol probably solves more problems than it creates. _____
- 42. Despite the fact that many millions do use alcoholic beverages, their use is degrading. _____
- 43. Drinking on some social occasions is reasonable, if it helps the individual to fit in with others. _____
- 44. Moderate social drinking is quite acceptable. _____
- 45. Drinking is to be condemned, not praised. _____
- 46. It is hard to have a good party without drinking. _____
- 47. The more we can limit the use of alcohol, regardless of circumstances, the better off we will be. _____
- 48. Anyone who is stupid enough to drink deserves all the trouble liquor will bring him. _____
- 49. Excessive drinking is not respectable. _____
- 50. I have no respect for anyone who drinks at all. _____
- 51. Drinking is fun. _____
- 52. To use alcohol is to invite unhappiness. _____
- 53. People tend to exaggerate the harm that social drinking does. _____
- 54. Alcoholic beverages are a blight on mankind. _____
- 55. No respectable person lets himself become drunk. _____
- 56. An individual without emotional problems has no need for alcohol. _____
- 57. It is permissible and desirable to drink when tradition or the social situations demands it. _____
- 58. Drinking is desirable in that it aids social relations. _____

59. People would be better off if they did not drink. _____
60. Drinking is desirable, in that it gives people happiness. _____
61. Drinking is desirable, in that it gives one self-assurance. _____
62. Moderate drinking is not really a moral issue. _____
63. Drinking is not respectable. _____
64. Alcohol is a great source of evil. _____
65. The use of alcohol degrades mankind. _____
66. It is fun to have a few drinks occasionally. _____
67. If a person wants to drink that is his business. _____
68. Drinking is a sin. _____
69. Adults should be allowed to drink if they want to. _____
70. There is nothing morally wrong with taking a few drinks now and then. _____
71. Prohibition is a moral necessity. _____
72. Drinkers are to be condemned. _____
73. If a person likes drinking, then let him drink. _____
74. Drinking generally contributes to people's happiness. _____
75. The world would be a better place if drinking and alcohol were abolished. _____
76. It is a sign of friendship when people drink together. _____
77. There is nothing wrong with drinking socially. _____

- 78. In an ideal society the drinking of alcoholic beverages would not be allowed. _____
- 79. Alcohol is the source of many evils. _____
- 80. Drinking is OK, if it is controlled and moderate. _____
- 81. All drinking should be as limited and as closely controlled as possible. _____
- 82. Drinking itself is desirable, but some of the consequences may be undesirable. _____
- 83. If a good friend of mine did not drink, I would encourage him to do so. _____
- 84. Parents who drink in front of their children would be better to flog them daily. _____
- 85. People should not be allowed to drink because they inflict misery on their innocent families. _____
- 86. Anyone who is weak enough to drink at all deserves all the trouble it will bring him. _____
- 87. Moderate drinking should be regarded as neither good nor evil. _____
- 88. Drinking may not be a sin, but it is not quite respectable either. _____
- 89. Drinking is desirable, in that it gives people a sense of satisfaction. _____
- 90. Moderate use of alcohol probably solves about as many problems as it creates. _____
- 91. People might be better off if they did not drink so much, but it really does not make much difference. _____
- 92. Drinking does not seem to be a serious problem in our society. _____
- 93. I would do everything possible to discourage a friend of mine from drinking. _____
- 94. The job applicant who drinks at all is probably a bad prospect. _____

95. The person who takes one drink is no better than the one who drinks himself into a stupor. _____
96. To feel high is to feel great. _____
97. The use of alcohol as a beverage is immoral. _____
98. Drinking is itself as bad as any improper behaviour which may result. _____
99. Despite the fact that many millions do use alcoholic beverages, their use is degrading. _____
100. To drink is to really enjoy life. _____
101. Only a complete fool routinely partakes of alcoholic beverages. _____
102. The use of alcohol is a custom which should be abandoned by society. _____
103. Drinking of alcoholic beverages should be classed with the illegal use of dope. _____
104. Parents would be better to flog their children daily than to drink in front of them. _____
105. There are occasions where a friendly and unrestrained atmosphere cannot be achieved unless alcohol is served. _____
106. Alcohol always brings false happiness. _____
107. Only sober happiness is real happiness. _____
108. A person who never takes alcohol is rarely able to enjoy himself as much as one who has had a few drinks. _____
109. A couple of drinks is an excellent means of getting a gloomy party into good spirits. _____
110. True friendship cannot be established with the aid of alcohol. _____
111. It is no wonder that old pals revive the memories of their youthful drinking bouts. _____

- 112. It is good that friends can sometimes speak their minds over a drink.

- 113. Alcohol brings more sorrow than happiness into a friendship.

- 114. Really lasting friendships can be formed between drinking companions?.

- 115. It is quite natural that good friends should have a drink or two.

- 116. A man is none the worse for a good binge now and then.

- 117. Being drunk is always degrading.

- 118. It is important for people to be able to get drunk once in a while in order to relax and to talk things out.

- 119. To get drunk shows a lack of moral stamina.

- 120. Getting drunk is a sign of immaturity.

- 121. It is hard to respect someone you have seen drunk.

- 122. I would think no less of a person for seeing him drunk.

- 123. Getting drunk occasionally is acceptable.

- 124. Because a person becomes drunk does not necessarily mean that he is an undesirable person.

- 125. Getting drunk with people is one way of expressing affection and good will.

- 126. If more people got drunk now and then, the world would be a happier place.

- 127. It is fun to get drunk now and then.

- 128. To get drunk regularly is acceptable behaviour for adults.

129. People don't need alcoholic beverages for good relations.

130. Drinkers are silly and embarrassing.

131. Alcoholic beverages make parties rough and annoying.

132. Moderate drinking is fun and harmless.

133. There is nothing wrong with drinking on special occasions.

Now we are interested in YOUR OWN FEELINGS. We want to know if you personally agree or disagree with a series of statements about the drinking of alcoholic beverages.

To the right of each statement are six response alternatives, marked as follows:

Strongly Agree	SA
Agree	A
Mildly Agree	MA
Mildly Disagree	MD
Disagree	D
Strongly Disagree	SD

Please indicate your agreement or disagreement by circling the appropriate response. For Example, if you read a statement with which you strongly agree, then circle the letters "SA" which stand for Strongly Agree. If you disagree with a statement, you might circle the "MD", the "D", or the "SD", depending upon whether you feel that you Mildly Disagree, or Disagree, or Strongly Disagree. The numbers printed underneath the letters are just for coding purposes, and you should pay no attention to them at all.

1. It is up to the individual whether he drinks or not	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
2. Drinking, in general, is desirable.	$\frac{SA}{6}$	$\frac{A}{6}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
3. An abstainer cannot really enjoy life.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
4. Social drinking adds to our pleasure and relaxation.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
5. A person who drinks shows that he is morally weak.	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$
6. Only a very unscrupulous person would give liquor to a youngster.	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$

APPENDIX B

TESTING QUESTIONNAIRE USED IN RESEARCH

CONFIDENTIAL

ID# _____

City: G.P. R.D. Edm. Ad: _____

1. Sex -male.....1
 -female.....2

Before asking you for some of your opinions about certain things I'd like to just get a bit of information about you...

IF MALE

2. What is your occupation?

(Be very specific)

IF FEMALE

2. What is the occupation of the head of the house?

Do you work as well?

(Be specific)

3. What is your present age please?

-18-24.....1
-25-29.....2
-30-34.....3
-35-39.....4
-40-44.....5
-45-49.....6
-50-54.....7
-55-59.....8
-60-69.....9
-70-up.....X

(exact age)

4. And are you presently married?

-married.....1
-widow(er).....2
-div., sep., etc.....3
-single (never mar.)..4

5. How many children have you living at home?

0 1 2 3 4 5 6 7 8

6. Would you tell me what grade of formal school you completed?

-none at all.....1
-1st to 6th.....2
-7th to 9th.....3
-10th to 12th (non-m)4
-12th grade matric...5
-over 12th, but no dg.6
-BA degree or higher.7

7. Would you mind telling me your religious preference?

-Roman Catholic.....1
-United Church.....2
-Anglican.....3
-Baptist.....4
-Mormon(L.D.S.).....5
-Lutheran.....6
-Greek Orthodox.....7
-other.....8

(specify)

-None.....9

8. About how regularly would you say you attend religious services?

-very (at least once a week) 1
-fairly (1,2,3 times a month) 2
-occasionally (less than monthly, e.g. holidays) 3
-rarely or not at all 4

9. To what ethnic or nationality group are you related?

-Eng., Scot., Ire., Wales.....1
-French.....2
-German, Austrian.....3
-Ukrainian.....4
-Dutch, Belgian.....5
-Russian, Polish, etc. Slav....6
-Scandinavian.....7
-Indian, Metis.....8
-other.....9

(specify)

Now we are interested in some of your own feelings. We want to know if you personally agree or disagree with a series of statements about the drinking of alcoholic beverages. Here is a card (HAND CARD) which shows six different possible answers you can give: Strongly Agree; Agree; Mildly Agree; Mildly Disagree; Disagree; or Strongly Disagree. Now, for example, how do you feel about this tatement... (PAY NO ATTENTION TO THE VARIOUS CODING NUMBERS) (CIRCLE ANSWERS)

1. It is up to the individual whether he drinks or not.	2.039	(1	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
3. Moderate social drinking is quite acceptable.	3.009	(14	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
4. A few drinks are quite-relaxing after a hard day's work.	2.906	(15	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
6. A person who drinks shows selfish unconcern for the welfare of others.	.828	(23	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$
7. It is difficult to respect someone who is a drinker.	1.002	(31	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$
8. Drinking is a very undesirable kind of behaviour.	.814	(33	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$
9. It is reasonable to drink if one enjoys the taste of alcoholic beverages.	2.554	(35	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
10. People who have been drunk should feel guilty.	1.017	(36	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$
11. Drinking itself is desirable, although it may have some undesirable consequences.	2.331	(40	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$

	1.208						(42)
12. Despite the fact that many millions do use alcoholic beverages, their use is degrading.	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$	
	2.592						(53)
13. People tend to exaggerate the harm that social drinking does.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$	
	1.353						(59)
14. People would be better off if they did not drink.	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$	
	2.782						(66)
15. It is fun to have a few drinks occassionally.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$	
	2.375						(73)
16. If a person likes drinking then let him drink.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$	
	1.407						(81)
17. All drinking should be as limited and as closely controlled as possible.	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$	
	2.139						(87)
18. Moderate drinking should be regarded as neither good nor evil.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$	
	1.636						(88)
19. Drinking may not be a sin, but it is not quite respectable either.	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$	
	1.940						(91)
20. People might be better off if they did not drink so much, but it really does not make much difference.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$	
	1.263						(106)
21. Alcohol always brings false happiness.	$\frac{SA}{1}$	$\frac{A}{2}$	$\frac{MA}{3}$	$\frac{MD}{4}$	$\frac{D}{5}$	$\frac{SD}{6}$	

	2.743					(115
22. It is quite natural that good friends should have a drink or two.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$
	2.237					(30
23. Drinking is an individual private concern.	$\frac{SA}{6}$	$\frac{A}{5}$	$\frac{MA}{4}$	$\frac{MD}{3}$	$\frac{D}{2}$	$\frac{SD}{1}$

Now would you mind looking at this scale which runs from very unfavourable on one side to very favourable on the other, and tell me where you would place yourself in terms of your general attitudes toward social drinking?

. 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8 . 9 . 10 . 11 .
 VERY NEUTRAL VERY
 UNFAVOURABLE FAVOURABLE

I would now like to ask you just a few questions about your own behaviour.

1. Could you give me some estimate of about how often, during this past year, you have had one or more drinks?

_____ not at all (SKIP TO Q. 7.)	_____ 2 to 3 times a month (less than once a week)
_____ 1 to 3 times a <u>year</u> (Xmas, etc. occasions)	_____ about once a week
_____ 4 to 8 times a year (about every other month)	_____ about twice a week
	_____ about 3 to 5 times a week
_____ 9 to 15 times a year (about once a month)	_____ every day (or almost every day)

2. Not counting any extreme experiences about how much....

<u>beer</u> do you usually drink at one sitting?	_____ glasses OR _____ bottles
<u>wine</u> do you usually drink at one sitting?	_____ glasses (OR) _____
<u>straight liquor</u> (INCL. liqueur) at one sitting?	_____ "shots" (OR _____)
<u>mixed drinks</u> do you usually drink at one sitting?	_____ drinks
other types of drinks? (TYPE _____)	_____ drinks

4. We have been talking about your usual drinking behaviour. Now, about how often would you say you drink considerably more than what you have indicated is usual for you?
-

5. Would you call yourself a very heavy drinker, a heavy drinker, a moderate drinker, or a light drinker?

1. _____ very heavy 2. _____ heavy 3. _____ moderate
4. _____ light

APPENDIX C

LETTER OF INTRODUCTION TO THE TESTING QUESTIONNAIRE

Division of Alcoholism, Department of
Health
Government of the Province of Alberta

June - July, 1965

To Whom It May Concern:

This interviewer is working for the Provincial Department of Health (Division of Alcoholism - Research) on a research project which involves talking to hundreds of residents in a number of towns and cities in Alberta. The purpose of this research is to gather information which will help in the setting up of treatment and educational facilities for the benefit of the citizens of this Province. The questionnaire you are being asked to complete is anonymous - we do not want your name - and the answers will be treated in a confidential manner. All of the material collected will be put together into valuable statistical reports indicating the way Albertans feel about certain things - but never identifying any particular person or persons.

The Division of Alcoholism (formerly The Alcoholism Foundation of Alberta) maintains and develops a broad, continuing program of education, treatment and research to deal with the problems of alcohol and alcoholism with the ultimate goal of prevention of serious alcohol problems. It is neither for nor against the use of alcohol as such. This organization is not the same as Alcoholics Anonymous, nor is it officially connected in any way to that worthy group.

This particular research project, one of many medical, psychological, social and other research efforts, is basically an attempt to gather some basic facts about general drinking habits, and the public's knowledge and attitudes concerning the use of alcohol, alcoholism, and related subjects.

The study is not concerned with seeking out alcoholics, nor with changing anyone's habits or beliefs, nor with "Selling" or "promoting" anything. We merely ask the co-operation of the public in aiding us in collecting some data about human behaviour.

Anyone seeking further information about the study is invited to inquire of one of the group when they are in town, or to write or call the Division's Office at the address shown above.

Sincerely,

RL:ew

Richard Laskin, Phd.
Research Associate

B29840